

## **CLASS 49, MOVABLE OR REMOVABLE CLOSURES**

### **SECTION I - CLASS DEFINITION**

This is the residual class of closures, which are movable or removable, and of ancillary devices not elsewhere classifiable.

### **SECTION II - NOTES TO THE CLASS DEFINITION**

- (1) Note. The terms “closure”, “movable closure”, and “removable closure”, are defined in the glossary.
- (2) Note. The schedule of this class was built on patents issued since 1930. Older patents were placed in the schedule mainly on the basis of disclosure and not necessarily on the basis of claimed subject matter.

### **SECTION III - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS**

Class 49 is superior to Class 160 and will take a flexible closure panel under the following conditions:

- (1) An impact absorbing flexible barricade as set forth in Class 49, subclass 9.
- (2) A flexible movable closure combined with an animal blocker, repeller or chaser. See Class 49, subclasses 58+.
- (3) Plural flexible movable closures on opposite sides of an independently movable or removable center post. See Class 49, subclass 365.
- (4) When the closure does not depend upon its flexibility for movement, e.g., a flexible panel within a rigid frame which is mounted for movement, and is not provided for in the Class 160 schedule.

See 445, for the line between the counterbalances in this subclass and the counterbalances in the class for Miscellaneous Hardware

(A) Certain classes take closure combinations where only so much of the closure is claimed as pertains to the subject matter of the class noted. See Class 16, subclass 193, and Class 49, subclass 445, for the lines between the counterbalances in the two subclasses. Also see Ref-

erences to Other Classes, below, for specific Class citations.

(B) Certain classes take a closure claimed as the load by name only or in general terms. See References to Other Classes, below, for specific Class citations.

### **CLOSURES IN OTHER CLASSES**

(A) Art devices having a closure as a part of the combination are classified for the most part with the particular art. The following notes mention some such art combinations, but no attempt has been made to mention all. An attempt has, however, been made to list all classes and subclasses for closures, per se.

#### **(B) Dispensing**

Closures constructed for dispensing, specially related to receptacles or containers to assist to promote dispensing, or combined with other dispensing structure have (for the most part) not been listed. In some instances, dispensing structures and/or closures having structure closely related to nondispensing closure structures, have been listed. For such devices, see the appropriate dispensing classification, Class 222, Dispensing, being the generic class, and see the notes in that class for the distribution of dispensing art.

#### **(C) Valves**

Valve type closures are not here listed; see References to Other Classes, below, for specific citations to the main classes for valves.

(D) Other categories of closures in References To Other Classes include:

Firearms, Ordnance and Ammunition;

Furnace and Heating Classes;

Receptacle, Building Structure and Vehicle Body Classes; and

Miscellaneous classes, not above mentioned, that have closures combined with other things, closures, per se, devices used with closures and devices not used as closures but having analogous structure, considered worth noting.

### **SECTION IV - REFERENCES TO OTHER CLASSES**

## SEE OR SEARCH CLASS:

- 2, Apparel, subclass 96 for front closures for coats; subclass 128 for shirt closures; subclass 141.1 for the combination of a collar and a collar closure; subclasses 218 and 219 for placket and waist closures for skirts; subclasses 234 and 235 for trouser closures; subclass 252 for pocket closing attachments; and subclass 270 for sleeve or leg closures.
- 4, Baths, Closets, Sinks, and Spittoons, subclasses: 234+ for closet seats combined with covers; 242.1 for covers for closet seats; 246.1+, for operators for closet seats and covers; 253 for closet bowl closures; 256.1 for devices for closing openings in closet bowls; 267+ for spittoon covers and operators; 286+ for covers and stoppers and plugs for basins, sinks and tubs; 607 for movable closures which include means to drain, deflect, or repel shower spray water; and 694 for closures for bath or basin overflow fittings.
- 5, Beds, subclass 171 for a bed carried by the door and shifted to position by movement of the door.
- 14, Bridges, subclasses 50+ for a movable closure combined with a bridge.
- 15, Brushing, Scrubbing, and General Cleaning, subclass 257.6 for a debris receptacle with a movable closure.
- 16, Miscellaneous Hardware, for closure combinations where only so much of the closure is claimed as pertains to the subject matter of Class 16. Except see subclass 193 of Class 16 for the line between the counterbalances of this subclass (193) and a subclass of Class 49. (Also see Lines With Other Classes of this class (49). )
- 27, Undertaking, subclasses 14+ for coffin lids.
- 34, Drying and Gas or Vapor Contact With Solids, subclass 242 for a closure sealing an opening in a treating chamber against gas leakage, and having means to permit the introduction of objects through the closure without voiding the seal, e.g., air locks.
- 36, Boots, Shoes, and Leggings, subclasses 50.1+ for closures for shoe uppers.
- 42, Firearms, subclasses 2+ for breech closures.
- 43, Fishing, Trapping, and Vermin Destroying, subclasses 58+ for trap closures.
- 48, Gas: Heating and Illuminating, subclass 124 for retort lids, subclass 176 for tanks with bell type closures.
- 52, Static Structures (e.g., Buildings), takes (1) a building or barrier having building features in addition to that of merely forming the opening or support for a movable closure, (2) means forming an opening through a barrier, (3) structure having features for removal of a panel section for purposes of repair or initial assembly or final disassembly, (4) a transparent panel (window) with means to treat the panel not elsewhere provided for, and (5) for panels, per se, even though defined as a closure. Also see other Class 52 references in this section for the subclass location of closures in Class 52.
- 52, Static Structures (e.g., Buildings), for closures and related structure provided in that class (52), particularly: subclasses 19+ for man-holes and roof entrance ways, subclass 37 for disparate articles on or adjacent a closure portal, subclasses 64+ for a barrier section mounted for repositioning, subclass 85 for a curved arch type doorway, subclass 107 for a window well and cover, subclasses 171.3+ for a window pane with treating means, subclass 186 for a closure related to a stair, subclass 199 for a roof vent, subclass 201 for a bay window, subclasses 204.1+ for a closure portal with a specified building feature, subclasses 302.1+ for a wall drain, subclasses 393+ for a window pane spaced from its frame by a yieldable separator, subclasses 455+ for a plural panel door, subclass 473 for a louvered panel with fixed slats, subclass 476 for a releasable, frame section which permits removal of a closure panel for repair, subclasses 764+ for a closure panel, e.g., pane, retained by a separable fastener and subclasses 782.1+ for a closure panel.
- 59, Chain, Staple, and Horseshoe Making, subclass 89 for chain links having a pivoted closure.
- 60, Power Plants, will take a closure claimed as the load by name only or in general terms.
- 62, Refrigeration, subclass 265 for a closure on a cooled compartment, and means blocking the outflow of cooled air when the closure is opened.
- 63, Jewelry, subclass 19 for lockets with hinged covers.
- 68, Textiles: Fluid Treating Apparatus, subclass 196 for covers for fixed liquid receptacle textile treating machines.
- 70, Locks, for closure combinations where only so much of the closure is claimed as pertains to the subject matter of Class 70.

- 73, Measuring and Testing, subclasses 330+ and subclass 334 for transparent closure plate type sight glasses.
- 74, Machine Element or Mechanism, will take a closure claimed as the load by name only or in general terms.
- 89, Ordnance, subclasses 17+ for breech closures and subclass 30 for touch-hole stoppers.
- 91, Motors: Expansible Chamber Type, will take a closure claimed as the load by name only or in general terms.
- 92, Expansible Chamber Devices, will take a closure claimed as the load by name only or in general terms.
- 92, Expansible Chamber Devices, appropriate subclasses for a closure limited for use as a closure for a working chamber of an expansible chamber device.
- 102, Ammunition and Explosives, subclass 304 and 333 for plugs to be placed in blast holes to confine the blasting charge, and subclass 532 for gun or cartridge wads.
- 105, Railway Rolling Stock, for closures associated with both passenger and freight cars, particularly subclasses 239+ for dumping cars, subclasses 332+ for convertible open and closed passenger cars and subclasses 341+, 343, 348+, 350+, 353, 377, 378, 395, 398, 426+, 437+, 439+, and 450 for various other closures or closure combinations.
- 109, Safes, Bank Protection, or a Related Device, subclasses 6+ for plural closures used as a trapping mechanism, subclasses 11+ for a protective shield movable from a retracted position to an operative position, and subclasses 64+ for a movable closure combined with a safe or like structure.
- 110, Furnaces, appropriate subclasses, particularly subclasses 112, 116 and 158 for furnace doors in combination with other furnace structure; subclass 172 for furnace fronts with doors; subclasses 173+ for furnace doors; subclass 180 for doors and casings with cooling means and subclasses 181+ for casings and arches for furnace doors.
- 114, Ships, subclasses 27+ for dumping and unloading means for scows, particularly subclasses 35 and 36+ for those having side and bottom doors; subclass 47 for floating dry-docks with end gates; subclasses 116+ for bulkheads and bulkheads provided with doors; subclasses 173+ for ports; subclass 180 for Hawse pipe stoppers and covers; subclass 197 for boat plugs with valves; subclasses 201+ for hatches and covers and subclasses 227+ for leak stoppers.
- 116, Signals and Indicators, appropriate subclasses, for nonelectrical signals and indicators for closures.
- 119, Animal Husbandry, subclass 11 for a movable partition closure in a stock car, and subclasses 15+ for a confining and housing device having a closure, especially subclass 15.2 for a race track starting stall having a movable gate.
- 122, Liquid Heaters and Vaporizers, subclasses 360+ for the structure of headers for water tube boilers; subclasses 497+ for water cooled boiler fronts, subclass 498 having water cooled furnace doors.
- 123, Internal-Combustion Engines, for a movable closure which directs the flow of a coolant, e.g., air, to an internal-combustion engine.
- 126, Stoves and Furnaces, particularly the following subclasses which occur in the class list in the order noted: 190+, for stove doors and windows; 201+, for stove and fireplace fenders; 211+, for stove lids and tops; 319, for flue stoppers; and 544+, for closures for fireplace openings.
- 131, Tobacco, particularly subclasses 176+, 206, 215.1+, 223, 228, and 242 for tobacco users' appliances having closures.
- 135, Tent, Canopy, Umbrella, or Cane, subclass 117 for tent doors.
- 137, Fluid Handling, for valves.
- 137, Fluid Handling, subclasses 247.41+ for U-seal traps which may include a closure.
- 138, Pipes and Tubular Conduits, subclass 89 for closures and plugs, and subclasses 98+ for patches.
- 150, Purses, Wallets, and Protective Covers, particularly the following subclasses which occur in the class list in the order noted. 118+ for purse closures.
- 152, Resilient Tires and Wheels, subclass 514 for pneumatic tire casing closures and flaps, subclasses 367+ for patches; and subclasses 428 and 431 for inflating valve stem cap combinations.
- 160, Flexible or Portable Closure, Partition, or Panel, for: (a) closures utilizing flexible material or fabrics in their panel portions; (b) closures made of plural strips, slats or panels interconnected with one another for relative motion; (c) closures of either or both types (a) and (b) combined with closures of other types. Note that subclasses 90+ of Class 160 provide for the combination of a Class 49 and a Class

- 160 closure. Class 160 will take a flexible panel of the type provided for where the sole disclosure is flexible, even though the claims are not limited thereto.
- 165, Heat Exchange, subclasses 72+ and 134.1+ for a heat exchanger with a removable closure; subclasses 98+ for a movable closure combined with a radiator, and subclass 158 for a heat exchanger with a head closure that forms a manifold.
- 166, Wells, subclass 75.13 for well heads having some fluid handling or other feature peculiar to wells.
- 174, Electricity: Conductors and Insulators, for a shield or screen having anti-inductive properties, and subclasses 66+ for covers and face plates.
- 181, Acoustics, subclass 287 for movable/foldable sound absorbing panels.
- 182, Fire Escape, Ladder, or Scaffold, subclass 21 for a window guard or shutter convertible to a ladder, and subclasses 77+ for a door combined with a ladder.
- 184, Lubrication, particularly subclass 80 for lubricator cups with closure and valve, and 88.1+ for oil cup closures.
- 187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, subclasses 313+ for a barrier in combination with other elevator structure which regulates access to or from an elevator car and subclasses 336+ for means for closing an elevator shaft opening through a landing.
- 192, Clutches and Power-Stop Control, will take a closure claimed as the load by name only or in general terms.
- 192, Clutches and Power-Stop Control, subclasses 135+ for automatic guards for stop mechanism involving covers.
- 194, Check-Actuated Control Mechanisms, appropriate subclasses, and see the search note in subclass 35 of this class (49) for the line.
- 198, Conveyors: Power-Driven, subclass 704 for bucket conveying elements with discharging doors.
- 200, Electricity: Circuit Makers and Breakers, subclasses 61.62+ for switches actuated concurrently with the use or operation of closures, closure operators or accessories.
- 202, Distillation: Apparatus, subclass 190 where a condenser forms a cap or closure for a still, and subclasses 242+ for retort and still closures.
- 209, Classifying, Separating, and Assorting Solids, subclass 372 for closures for sifting bins and casings.
- 210, Liquid Purification or Separation, subclasses 163+ for grated inlet surface drains, subclasses 244+ for filters in a portable receptacle having a hood or closure, subclasses 435+ for filters in a closed casing, and subclass 541 for filter adjuncts, e.g., filter casings peculiar to that art.
- 211, Supports: Racks, subclasses 76 and 82-84 for receptacle racks having closures or closure operators for the supported receptacles.
- 212, Traversing Hoists, subclass 166 for door lifters.
- 215, Bottles and Jars, subclasses 50+ for bottle necks which are breakable and include a stopper, subclasses 54+ for bottle necks which are breakable and include a stopper and a stopper fastener and 200+ for bottle closures in general.
- 217, Wooden Receptacles, subclasses: 56+ for box closures; 76+ for barrel closures; 98+ for barrel bungs; and 124 for basket closures.
- 220, Receptacles, subclasses 200+ for movable or removable closures for a receptacle.
- 221, Article Dispensing, subclasses 289+ for article dispensers having closures operated to effect the mechanical release or separation of articles from a source of supply.
- 222, Dispensing, appropriate subclasses, and see Lines With Other Classes, Closures in Other Classes, Note B, supra.
- 229, Envelopes, Wrappers, and Paperboard Boxes, subclasses 76+ for an envelope closure, 124+ for a box closure, and 92.5 and 92.7 for a letter sheet closure; 25+, 33, 36, 38+, and 124+ for folded blank box closures; 43+, for other box closures; 62+, for bag closures; 76+, for envelope closures; and 92.5 and 92.7 for letter sheet closures.
- 231, Whips and Whip Apparatus, subclass 6 for caps analogous to closures.
- 232, Deposit and Collection Receptacles, particularly subclasses: 14 for change gates; 22, for letter boxes combined with door or window; 25+ for letter boxes combined with cooperative closures; 42 for milk receptacles combined with door or window; 43.1+ for deposit and collection receptacles having separate inlet and outlet openings and closures for said opening; and 44+ for closures and chutes.
- 238, Railways: Surface Track, subclasses 74, 75, 76 for ties in the form of rectangular tubes with separate top and/or bottom plates, and subclass 104 for end closures for tubular ties and tie casings.

- 246, Railway Switches and Signals, particularly subclasses: (A) 125+ for closures automatically actuated or controlled from a moving train or vehicle by electrical means, and (B) or actuating means, many of which are for closures: 218+ for electric for electric actuating means; 257+ for fluid motor actuating means, particularly subclasses 261; 262+ for mechanical motor actuating means; 270+ for vehicle-energy actuating means, particularly subclasses 272 and 292+.
- 248, Supports, subclass 134 for a receptacle, tiltably mounted on a stand, and wherein movement of the receptacle operates a closure.
- 249, Static Molds, subclass 205 for stoppers for use in metal ingot and pig molds.
- 251, Valves and Valve Actuation, for valves..
- 256, Fences, subclass 1 for fences with gate closures.
- 266, Metallurgical Apparatus, subclass 272 for devices for closing the tap hole or tuyere to stop flow of molten material.
- 277, Seal for a Joint or Junction, for a generic sealing means or process, cross-reference art collection 921 for a closure or weather strip seal.
- 285, Pipe Joints or Couplings, subclass 119 for a pipe end closure combined with a spaced pipe-to-plate joint, and subclasses 148.6+ for a pipe or cable and box coupling comprising pipe or cable clamping means having an attached closure flange.
- 292, Closure Fasteners, for closure combinations where only so much of the closure is claimed as pertains to the subject matter of Class 292. Except, see the search notes in this class (49), subclass 414 for the line between the friction bearings of that subclass and the double acting bolts in subclasses 14+ and 70+ of Class 292, and see the note in subclass 356 for the line between the push rod actuators of this class (49) and the extension links in subclasses 262+ of Class 292.
- 296, Land Vehicles: Bodies and Tops, subclasses 146.1+ for either (a) a plurality of access barriers or closures about a vehicle body or (b) an access barrier or closure combined with a feature or accessory of a vehicle body (e.g., sill, side rail, windshield, seat armrest, visor, etc.); subclasses 210+ for an access barrier or closure combined with structure defining a vehicle top (roof) (e.g., sun roof and/or moon roof, etc.). Class 49, Movable and Removable Closures, is the controlling class for a single door and/or window for a single opening in either a vehicle body or top in the absence of a defining feature or accessory correlated to a vehicle body or top, respectively.
- 296, Land Vehicles: Bodies and Tops, particularly subclasses: 50 for end gates; 77.1+ for storm fronts including windshields; and 146.1+ for doors and windows.
- 298, Land Vehicles: Dumping, particularly subclasses 6, 23, and 27+ for closures for dumping vehicles.
- 303, Fluid-Pressure and Analogous Brake Systems, subclass 6.1 for a fluid pressure brake for controlling a fluid motor which operates a closure.
- 312, Supports: Cabinet Structure, for appropriate subclasses for closures which are components of cabinets.
- 318, Electricity: Motive Power Systems, will take a closure claimed as the load by name only or in general terms.
- 340, Communications: Electrical, subclasses 545.1+ for electrical signals automatically responsive to the condition of a closure.
- 359, Optical: Systems and Elements, subclasses 591+ for means to illuminate the interior of a building with exterior light.
- 362, Illumination, particularly subclass 100 for door knob or keyhole illuminators, subclass 375 for casing closures for lanterns, subclasses 455+ for devices analogous to closures for dimming lanterns, subclass 127 for socket covers and for lens holders.
- 366, Agitating, subclasses 242+ for a stirrer mounted in a removable closure of a stationary mixing chamber, and subclass 347 for mixing chamber covers and shields.
- 368, Horology: Time Measuring Systems or Devices, particularly subclasses 294+ for bezels and crystals; and subclass 312 for spring covers.
- 383, Flexible Bags, subclasses 42+ for a bag closure.
- 384, Bearings, subclasses 189+, for a lid or closure plate for an exterior car journal box.
- 396, Photography, subclasses 452+ for camera shutters and subclasses 517+ for plateholders having closures.
- 400, Typewriting Machines, subclasses 713+ for resilient covers for typewriter keys analogous to closures.
- 404, Road Structure, Process, or Apparatus, subclass 23 for a pavement with removable light admitting means and subclasses 25+ for a pavement with a vault-cover closure.

- 405, Hydraulic and Earth Engineering, subclass 6 for dry dock gates; subclass 42 for an end cap on an irrigation conduit; subclasses 85+ for canal locks; subclass 87 for water gates; and subclass 107 for dams and levees.
- 406, Conveyors: Fluid Current, subclasses 147+ and 176+ for pneumatic dispatch transmission tube terminals, many of which have closures; and subclasses 186 and 188+ for carriers having side openings and end openings, respectively, with closures.
- 410, Freight Accommodation on Freight Carrier, subclasses 143+ for a brace panel or bulkhead movably or removably positioned wall-to-wall athwart a freight carrier.
- 414, Material or Article Handling, subclasses 164, 169+, 200+, 221, 328+, 369, 387+, 407, 414, 472, 519+, 545, 556+, 616, 644, and 657+ for structure in the nature of a closure.
- 418, Rotary Expansible Chamber Devices, will take a closure claimed as the load by name only or in general terms.
- 428, Stock Material or Miscellaneous Articles, appropriate subclasses, for a sheet with corner or perimeter structure, as in subclasses 81+ which may be usable as a closure.
- 429, Chemistry: Electrical Current Producing Apparatus, Product, and Process, subclass 174, and 185 for battery having sealing means (material), and subclasses 175 and 177 for battery covers.
- 439, Electrical Connectors, subclasses 135+ for an electrical connector with a movable or removable closure therefore.
- 449, Bee Culture, subclasses 20+ for a passageway in a bee hive or into a bee hive.
- 454, Ventilation, for closures of various types having ventilating features, particularly subclasses 284+ for registers and specifically subclasses 309+ for louvers.
- 454, Ventilation, takes a plurality of spaced movable closures especially arranged to utilize natural laws or phenomena to effect ventilation, e.g., top and bottom ventilation for a window whereby fresh air enters at the bottom and stale air leaves at the top, and for a movable closure combined with ventilation means to supply, distribute, regulate, treat or direct air in a tortuous path or to change the direction of flow of the air. A mere through passage in a wall combined with a closure for the passage of air is classified in this class (49).

- 475, Planetary Gear Transmission Systems or Components, will take a closure claimed as the load by name only or in general terms.

## SECTION V - GLOSSARY

### ACTUATOR

(See OPERATOR) The force input means to the closure for imparting movement thereto, e.g., an operator. The term is broader than "operator" since a handle which does not move relative to the closure is considered an actuator.

### BARRIER

A construction forming an extended indefinite surface preventing or inhibiting the passage of persons or things, e.g., wall, ceiling, floor, roof or cover.

### CABLE

A flexible connector such as a rope, chain or the like.

### CLOSURE

A closure is an obstructive structure whose presence in or before a passage bars traffic through the passage. The character of passage varies depending on the thing or things the passage is intended to accommodate. For example, a single rod across a doorway prevents passage of a person but not a small animal; a letter slot permits passage of a letter but not a large package, a window sash permits passage of light but not air, a shutter permits passage of air but restricts the passage of light.

### LEVER

An elongated rigid arm which is pivoted at least one point along its length.

### LINK

A type of lever which is pivoted at two or more points along its length, usually at its extremities.

### MOTOR DRIVEN OR ACTUATED

A powered means such as a motor or engine utilized as the moving force or input of the operator. A mere spring is not a powered means, but a motor having a spring as

the source of power is included within the meaning of the term defined.

#### MOVABLE CLOSURE

A closure mounted to move in a regular, repetitive, pre-determined path with respect to a passage so as to alternately open or close the passage.

#### MULTIDIRECTIONAL MOVEMENT

Motion along two or more distinct lines of travel or about two or more axes of rotation or a combination thereof, in a single operation.

#### OPERATOR

A manipulatable mechanical means, movable relative to the closure, for imparting movement to the closure relative to its mounting means, in its opening or closing movement. A mere spring which effects the movement of the closure, for example, by utilizing the stored energy to return the closure to starting position, is not included within the meaning of this term.

#### PANEL

A sheet-like member which is a section of a closure structure.

#### PORTAL

Structure defining an opening through a barrier for the passage of persons or things, e.g., the framing of a door or window opening.

#### REMOVABLE CLOSURE

A closure which is mounted so as to be readily physically disassociated from its supporting structure to form a passage.

#### RECTILINEAR MOVEMENT OF CLOSURE

Straight line motion in opposite directions, such as up and down, right and left, to open or close a passage.

#### SLIDING MOVEMENT OF CLOSURE

Rectilinear motion which is constrained by stationary guides on the supporting member(s).

#### SLIDE-STILE

An elongated member extending along the edge of a closure in opposition to a portal frame member, e.g., jamb, and connectable to the closure for sliding therewith.

#### SWINGING MOVEMENT OF CLOSURE:

A turning motion about a pivot to open or close a passage.

#### SUBCLASSES

- 1 THERMAL RELEASER OR ACTUATOR:**  
This subclass is indented under the class definition. Device provided with means for retaining a closure in a desired position, or with means for imparting movement to the closure, said means including a device which when under the influence of heat will release the retaining means or set in motion actuating means to permit or cause the closure to move to a different position.

#### SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware, subclass 48.5 for a thermally released door check or closer.
- 52, Static Structures (e.g., Buildings), for a static structure with a reactive component, e.g., meltable section.
- 109, Safes, Bank Protection, or a Related Device, subclass 33 for a bank protection device with thermally controlled fluent material means.
- 116, Signals and Indicators, subclasses 101+ for thermal alarms.
- 126, Stoves and Furnaces, subclass 287.5 for a thermally released damper.
- 137, Fluid Handling, subclasses 72+ for valves controlled by a fusible or heat destructible element, and subclasses 79+, 457 and 468 for other heat responsive valves.
- 169, Fire Extinguishers, subclasses 56+ for condition responsive controls in special applications, subclass 19 for automatic valves, subclasses 37+ for sprinkler heads, and subclass 42 for fusible connections.
- 222, Dispensing, subclass 54 for a thermally controlled dispensing device.

- 236, Automatic Temperature and Humidity Regulation, subclasses 32 and 33 for thermostats.
- 292, Closure Fasteners, subclass 144 for thermally operated sliding bolts and subclass 201 for thermally operated swinging bolts.
- 337, Electricity: Electrothermally or Thermally Actuated Switches, subclasses 298+ for thermally controlled electrical switches.
- 361, Electricity: Electrical Systems and Devices, subclasses 103+ for thermally controlled (e.g., fusible) circuit interruption.
- 454, Ventilation, subclass 28 for a thermally released outlet cowl and subclass 369 for thermally actuated fire dampers used in ventilating systems.
- 2 Nonfusible:**  
This subclass is indented under subclass 1. Device wherein the heat responsive device returns to its original shape and position when the heat of actuation is removed, and reacts cyclically upon the reapplication of heat, as distinguished from meltable elements, such as fusible links, which must be replaced after each use.
- SEE OR SEARCH CLASS:  
160, Flexible or Portable Closure, Partition, or Panel, subclass 6 for a nonfusible thermal initiator for the automatic control of a closure of that class.
- 3 Common fuse releases closures for plural openings:**  
This subclass is indented under subclass 1. Device provided with a plurality of closures for a plurality of openings and wherein a single thermally responsive device, releases all of the closures, e.g., separate fusible means for each closure arranged so that the fusing of any one of the fusible means will permit all closures to be released.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
5, for plural sliding closures for a single opening wherein the closures are counter-balanced by each other, and wherein a single thermally responsive device releases all closures.
- 4 Pull cable with fusible connection:**  
This subclass is indented under subclass 1. Device wherein the retaining means includes a cable which is grasped by hand to move the closure, e.g., against gravity or a biasing means, and wherein thermally responsive device will release the cable and permit the closure to return.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
347, for a one direction pull cable actuator for a closure.
- 5 Terminates counterweight condition:**  
This subclass is indented under subclass 1. Device wherein the retaining means includes a counterweight which counteracts the weight of the closure, and wherein the thermally responsive device includes means which disturbs the balance of the counterweight and closure, e.g., devices in which the weight of one closure balances the weight of another.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
119, for closures interconnected for opposed concurrent movement in which one closure counter-balances the weight of the other.
- 6 Overbalanced by released weight supplementing counterweight:**  
This subclass is indented under subclass 5. Device wherein the thermally responsive device releases a weight which, together with the counterweight, overcomes the weight of the closure to move it.
- 7 Fusible closure latch or retainer:**  
This subclass is indented under subclass 1. Device wherein the retaining means holds the closure in a desired position, and wherein the device melts to release the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
503, for a closure panel modified to receive a latch or lock, and see the search notes thereto for the loci of closure latches.

- 8 Fusible connector disengages pawl or catch:**  
This subclass is indented under subclass 7. Device wherein the retaining means includes a locking device provided with a holding detent, and means to withdraw or permit it to withdraw from its holding position upon melting of the fusible means to release the closure.

**9 IMPACT ABSORBING FLEXIBLE BARRICADE:**

This subclass is indented under the class definition. Device comprising a flaccid or resilient closure supported in closed position by a yieldable means, so that the inertia of a moving object striking the closure is absorbed and the object is slowed or stopped.

- (1) Note. Included here are highway barricades placeable before bridges, chasms and crossings to selectively bar traffic thereto.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 34, for a flexible closure which distorts in its opening or closing movement.  
192+, for a railroad crossing gate, normally swinging in a vertical plane between open and closed positions and movable about a vertical axis in its closed position, e.g., when struck by a vehicle attempting to use the barred passage.  
460+, for a protector which guards a closure against damage.

SEE OR SEARCH CLASS:

- 109, Safes, Bank Protection, or a Related Device, subclasses 64+ for safe and bank closures constructed to absorb attacks of force.  
244, Aeronautics and Astronautics, subclasses 110+ for airplane landing arresting gear.

**10 FLOOD ACTUATED:**

This subclass is indented under the class definition. Device wherein the closure is mounted in or adjacent a stream bed to extend thereacross and to impede passage of objects therethrough, and wherein the closure is opened by the presence of abnormal amounts of water, e.g., flood stage.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 21, for a closure released for movement or directly actuated by an ambient fluid, e.g., rain or snow.  
131, for a closure pivoted adjacent its lower edge so that in open position it lies upon or below the surface upon which it is mounted.

SEE OR SEARCH CLASS:

- 256, Fences, subclass 13 for fence panels which are not mounted for movement, but are particularly adapted for use on shores or in beds of streams.  
405, Hydraulic and Earth Engineering, subclasses 87+ for gates or closures adapted to regulate the height of a water level.

**11 Float or vane controlled latch release:**

This subclass is indented under subclass 10. Device provided with a means which is responsive to a rise in the height of the water in the stream or to an increase in the velocity of the stream to release means holding the closure in closed position.

**12 Axially pivoted picket pole:**

This subclass is indented under subclass 10. Device comprising a shaft having bars or rods projecting therefrom to form a barrier, and wherein the shaft is mounted to turn about an axis parallel to the axis of the shaft.

**13 CLOSURE CONDITION SIGNAL OR INDICATOR:**

This subclass is indented under the class definition. Device comprising a means acting only to produce a perceptible, e.g., audible or visual manifestation of a position of a closure.

SEE OR SEARCH CLASS:

- 109, Safes, Bank Protection, or a Related Device, subclass 38 for a device of that class combined with a signal or indicator, particularly subclass 43 for one which is initiated by closure movement.  
116, Signals and Indicators, subclass 85 for closure operated burglar alarms, i.e., alarms to announce unauthorized attempts to use the closure-barred

opening, and subclass 100 for structurally installed closure operated alarms to indicate the presence of a visitor, or combined with a fire alarm box to give a local alarm when the box closure has been opened, e.g., to actuate the fire alarm.

- 160, Flexible or Portable Closure, Partition, or Panel, subclass 10 for a signal or indicator combined with a closure of that class.
- 200, Electricity: Circuit Makers and Breakers, subclass 61.62 for a closure or closure operator actuated switch, e.g., to actuate a signalling circuit.
- 340, Communications: Electrical, subclasses 545.1+ for electrical communications, e.g., alarm, automatically responsive to the condition of a closure.

#### 14 **Indicator at remote station:**

This subclass is indented under subclass 13. Device wherein the signalling means is located at a place removed from the closure to indicate its position to a nonuser of the passage closed.

SEE OR SEARCH CLASS:

- 340, Communications: Electrical, subclasses 517+ for electrical indicating systems responsive to a plurality of sensed conditions; subclasses 524+ for same with position of the condition indicator; subclasses 531+ for electrical condition responsive system where the sensed condition is at a remote location and there is a particular coupling link; and subclasses 545.1+ for electrical condition responsive indicating systems automatically responsive to door or window movement.

#### 15 **JAIL-TYPE CLOSURE WITH REMOTE CONTROL STATION:**

This subclass is indented under the class definition. Device comprising a closure for a detention area, and means for moving or restraining the movement of the closure; which means is operable at a point at a distance from the closure and which point is inaccessible to a person having direct access to the closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 14, for a closure having means at a remote location to indicate the position of the closure.

#### 16 **Additional key or combination control of individual closure:**

This subclass is indented under subclass 15. Device comprising a plurality of closures and a closure restrainer on each closure, which restrainer requires a specially contrived, insertable implement, or a prearranged secret or non-public order of movement of elements in order to be operated.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 24, for other closures, each with an individual control, and a remote master control.

#### 17 **Enclosure for remote control:**

This subclass is indented under subclass 15. Device comprising a box or casing containing the distant control means.

- (1) Note. The enclosure may usually be separately locked.

#### 18 **Motor operated control:**

This subclass is indented under subclass 15. Device comprising a motor actuator, i.e., powered means, other than a mere spring for the mover or restrainer of the closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 334, for a motor driven coaxial operator and see the search notes thereto for the loci of other motor driven closures.

#### 19 **Rotary gang bar:**

This subclass is indented under subclass 15. Device comprising a bar extending along a plurality of closures and rotatable along its longitudinal axis to operate two or more of the closures.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 97, for a rock shaft interconnecting closures in spaced openings along a barrier.

**20 Ganged closures with selector means:**

This subclass is indented under subclass 15. Device comprising a means to control two or more closures conjointly, and provided with additional means to selectively couple a closure to the control means.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 98, for closures interconnected for concurrent movement one of which closures is also capable of independent movement.

**21 RESPONSIVE TO OR DIRECTLY ACTUATED BY AMBIENT FLUID:**

This subclass is indented under the class definition. Device provided with (1) means which react to the presence or motion of a fluid in the surrounding atmosphere to move or permit movement of a closure, or (2) a means connected to the closure and movable by ambient fluid to move the closure.

- (1) Note. Included in this subclass are storm doors having relief vents for relieving the air pressure or vacuum between the storm door and the exterior house door.
- (2) Note. The word "ambient" is intended to exclude the fluid of a fluid motor operator, which operators are classified below, for example, in subclass 324.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 10, for a stream spanning closure responsive to the amount or velocity of water in the stream, especially subclass 11 for a float controlled operator or latch release for such a closure.
- 89, for a louver closure biased to an open position in which the surface of the louvers is exposed to the action of a fluid, such as air or rain, which acts in opposition to the biasing means.

- 386, for a swinging closure which is counterbalanced to a desired position, and wherein the surface of the closure is exposed to the action of a fluid, such as air, against action of the counterbalance.

SEE OR SEARCH CLASS:

- 114, Ships, subclass 118 for a bulkhead door which automatically closes on the entry of water to a certain height.
- 116, Signals and Indicators, subclass 69 for alarms actuated by the fall of rain, and subclass 70 for alarms actuated by a variation in fluid pressure.
- 137, Fluid Handling, subclass 388 for a liquid level responsive device which excludes an external liquid from a gas inlet or outlet such as a shipboard ventilator.
- 160, Flexible or Portable Closure, Partition, or Panel, subclass 5 for rain actuated initiations for closures of the type found in that class.
- 200, Electricity: Circuit Makers and Breakers, subclass 61.04 for a liquid or moisture responsive circuit maker or breaker.

**22 Fluid softenable or soluble latch release:**

This subclass is indented under subclass 21. Device comprising a means to hold a closure against the action of gravity or a biasing means, and wherein one of the elements of the holding means is of a material which is dissolved or weakened by a fluid, such as water, so that the holding means becomes inoperative in the presence of the fluid.

**23 Water accumulator-type:**

This subclass is indented under subclass 21. Device wherein the fluid reacting means includes a collector for water, e.g., a rain trap, so that the means is responsive to a predetermined amount or to the rate of increase of the fluid.

**24 WITH MASTER CONTROL FOR INDIVIDUALLY CONTROLLED CLOSURES:**

This subclass is indented under the class definition. Device comprising a plurality of closures, each having a means to effect, prevent or permit movement of its closure, and a separate

common means to effect, permit or prevent movement of all of the closures.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

16, for jail type closures having individual controls and a remote master control.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclass 341 for a railway passenger car having entrance and exit closures, controlled individually, and jointly through a master control.

## 25 RADIANT ENERGY CONTROL:

This subclass is indented under the class definition. Device comprising means to sense the transmission of wave energy through natural media, and means responsive to the sensing means to impart to or permit movement of a closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

1+, for a closure with thermal release means.

SEE OR SEARCH CLASS:

160, Flexible or Portable Closure, Partition, or Panel, subclass 5 for a closure of that class responsive to variations in light intensity.

250, Radiant Energy, subclasses 336.1+ for a device for the detection and measurement of invisible radiation and subclasses 206+ for photocell controlled circuits.

307, Electrical Transmission or Interconnection Systems, subclass 117 for a closure motor switching system controlled by radiant energy.

318, Electricity: Motive Power Systems, subclass 16 for an electric closure motor controlled by a space transmitted electromagnetic or electrostatic energy, and subclasses 445+ for an electric closure motor controlled by other radiant energy sources.

361, Electricity: Electrical Systems and Devices, subclasses 173+ for a closure controlling relay responsive to radiant energy.

## 26 SAFETY MEANS RESPONSIVE TO OBSTRUCTION TO CLOSURE:

This subclass is indented under the class definition. Device wherein an element of a closure moving means has provision for discontinuing, reversing or preventing the application of a moving force to the closure if the closure meets abnormal resistance or is subjected to a force in a different direction.

(1) Note. Included in this subclass are closures having a moving means which includes an overload responsive coupling which continues to urge the closure to a closed position, and which moves the closure in this direction upon the removal of the obstruction.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

141, for a closure having means to permit its emergency release.

192, for a crossing gate movable vertically to block a passageway, and additionally yieldably movable horizontally when struck by a vehicle using the passageway.

## 27 Sensing shoe on leading edge:

This subclass is indented under subclass 26. Device comprising a member yieldably mounted on the leading edge of the closure, and wherein means are provided, which upon relative movement of the member and closure, detects the presence of the abnormal resistance or force in a different direction.

SEE OR SEARCH CLASS:

200, Electricity: Circuit Makers and Breakers, subclass 61.43 for a sensitive edge closure switch.

## 28 Closure drive stopping or reversal:

This subclass is indented under subclass 26. Device wherein the closure moving means ceases to urge the closure to a closed position, or moves the closure in an opposite direction, when the closure meets the abnormal resistance.

**29 TIME CONTROLLED:**

This subclass is indented under the class definition. Device provided with a means for measuring or determining a time interval or lag, and which imparts to or permits movement of the closure after a predetermined interval or at a specified time.

**SEE OR SEARCH CLASS:**

74, Machine Element or Mechanism, subclasses 3.5+ for a trip releasable at a particular time or after a predetermined interval.

**30 Predetermined delay governs start of closure movement:**

This subclass is indented under subclass 29. Device wherein the means detains the closure in its open position for a preselected period of time before imparting or permitting closing movement, e.g., cyclically operated closures which, after a movement initiation; open, delay, and then close.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

138, for a closure having a means to vary its speed during closing movement.

**31 CONDITION RESPONSIVE CONTROL:**

This subclass is indented under the class definition. Device comprising a means to sense a condition or change of condition, and means responsive to the sensing means to effect a control on a closure.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

43, for means acting continuously to control the rate of motion of a revolving closure.  
262, for an actuator, moved by the passage of a closure user to or through a closure opening.  
263+, for an operator actuated by the weight of a closure user.  
322, for a safety catch, operable upon breakage of a closure support to prevent falling of the closure.

**SEE OR SEARCH CLASS:**

105, Railway Rolling Stock, subclass 349 for railway car closures automatically

actuated upon the occurrence of an emergency condition, such as the overturning of the car.

**32 INITIAL MANUAL DISPLACEMENT ENERGIZES MOTOR DRIVE; E.G., TOUCH PLATE INITIATOR:**

This subclass is indented under the class definition. Device provided with a motor, i.e., power input means other than a mere spring, responsive to initial manual movement of the closure or a closure actuator in one direction, to drive the closure in the same direction.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

276+, for an operator which imparts an initial opening movement to a closure and then disengages to permit the opening to be concluded by other means.

**33 CLOSURE SHIFTABLE TO PIT OR OBSTACLE BRIDGING POSITION:**

This subclass is indented under the class definition. Device comprising a traffic path including an impediment to traffic in the form of a hole or cavity in the path, and including means movable to cover the hole or cavity to provide a passageway thereover, a pit is usually acting to prevent the passage of animals and therefore may take the place of a gate in a fence.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

37, for a closure which converts to a gangway.  
131+, for a closure which moves to an inoperative position flush with the ground.

**SEE OR SEARCH CLASS:**

14, Bridges, subclasses 31+ for a draw bridge, and particularly subclasses 50+ for an interrelated draw bridge and gate.  
404, Road Structure, Process, or Apparatus, subclass 23 for a pavement with removable light admitting means and subclasses 25+ for a pavement with a vault cover-closure.

**34 DISTORTABLE; E.G., FLEXIBLE STRAND-TYPE BARRICADE:**

This subclass is indented under the class definition. Device comprising a closure having flexible parts or joints which permit the shape of the closure to be altered in opening and closing; e.g., to fit the opening or to effect a tight seal, including a barricade consisting of a single, resilient bar.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

9, for an impact absorbing closure which distorts on impact.

SEE OR SEARCH CLASS:

160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses, for a closure comprising a flexible panel, particularly subclasses 327+ for a nonframed plural edge held fabric panel which is distorted when released for movement.

**35 CHECK OR KEY CONTROLLED:**

This subclass is indented under the class definition. Device including a means responsive to the insertion of a coin, check or key, for operating or permitting the operation of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

16, for a jail type closure with an additional key or combination control.

SEE OR SEARCH CLASS:

70, Locks, subclasses 77+ for a lock for a closure and see the class definition of that class (70) for the definition of a key.  
194, Check-Actuated Control Mechanisms, appropriate subclasses for a similar device in which the "coin controlled means" is claimed in detail, and see Lines With Other Classes in the class definition of that class (194) for the line.

**36 CONTINUOUS CLOSURE OPENING IN INTERSECTING BARRIERS:**

This subclass is indented under the class definition. Device wherein the opening extends on both sides of and through the line of juncture

between a sidewall and a ceiling or roof or between two converging sidewalls, and wherein mating closures are provided, one for each barrier, or wherein a single closure is provided for the entire opening.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

40, for a concave or convex closure for a similarly shaped opening.

94, for a separate opening in each of two converging surfaces and closures interrelated for concurrent movement for each opening.

**37 CONVERTIBLE:**

This subclass is indented under the class definition. Device wherein by reorientation of a closure or an adjunct thereof, there is formed another and different structure which if claimed alone would be classifiable in another class.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

33, for a closure which is reoriented to bridge a pit or obstacle.

71, for a closure pivoted above an opening and movable from an awning forming position to a position overlying the opening to constitute a storm shutter.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 64+ for a barrier or major section mounted for repositioning.

**38 REGISTERABLE OPENING IN FACIALLY OPPOSED CLOSURE AND BARRIER:**

This subclass is indented under the class definition. Device provided with a passage blocking member having a plurality of openings spaced in the same plane, and further provided with a movable closure back to back with the member and having a plurality of spaced openings therein and movable while maintaining the back to back relationship, whereby a movement of the closure aligns or misaligns the openings in the closure with the openings in the passage blocking members.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 95+, for a plurality of interconnected closures in spaced openings along a barrier.
- SEE OR SEARCH CLASS:  
 454, Ventilation, subclasses 196+ for a register-type ventilator combined with a window and subclasses 284+ for registers combined with heating or ventilating structure.
- 39 Radially positioned:**  
 This subclass is indented under subclass 38. Device wherein the openings in the closure are spaced circumferentially about a common point and wherein the closure moves about the common point.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 41, for arcuate closure which moves in a circular opening.
- 40 CONVEX OR CONCAVE CLOSURE AND OPENING:**  
 This subclass is indented under the class definition. Device wherein the closure surface and the means defining an opening for the closure are arched or bulged.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 42, for plural wing closures revolving about a center axis within an arc-shaped casing.
- 41 ARCUATE CLOSURE ROTATES ACROSS ARCUATE OPENING:**  
 This subclass is indented under the class definition. Device comprising a closure having a curved edge surface, and a passage blocking member having an annular opening therein, and wherein said closure moves about an axis concentric with the axis of the opening.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 39, for a radially movable closure for plural openings.
- 42 PLURAL WINGS RADIATE FROM COMMON PIVOT; I.E., REVOLVING:**  
 This subclass is indented under the class definition. Device comprising a plurality of closures which are mounted to radiate from and rotate in the same direction about a common axis through an arc of 360° or more.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 381+, for a closure mounted to swing about an axis, and especially subclasses 388+ for a swinging closure mounted on opposing frame members.
- SEE OR SEARCH CLASS:  
 109, Safes, Bank Protection, or a Related Device, subclass 8 for bank protection device which includes a plural-bladed revolving door.  
 235, Registers, subclass 93 for a turnstile operated register.
- 43 With speed regulator:**  
 This subclass is indented under subclass 42. Device provided with means to govern or control the rate of revolution.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 46+, for revolving closures having a means to limit the rotation to incremental steps, including means to slow down the closure just before a stop position.
- SEE OR SEARCH CLASS:  
 188, Brakes, subclasses 180+ for speed responsive to regulators, per se.
- 44 Wings fold for through passage:**  
 This subclass is indented under subclass 42. Device wherein the wings are foldable from a radiating relationship to lie adjacent each other or to one side of the passageway out of a passage barring position, including "panic" type revolving doors in which the means holding the wings radially yield upon abnormal force to permit passage on both sides of the pivot at once.

**45 Move laterally of opening:**

This subclass is indented under subclass 44. Device wherein the wings are mounted to move to the side of the opening to clear the mid-portion of the passage.

**46 Successive position-type; e.g., turnstile:**

This subclass is indented under subclass 42. Device wherein are provided means to restrict rotation of the wings to one direction, and wherein after each pass-through portion of a revolution of a wing, a mechanism centers a succeeding wing in passage barring position.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclass 341.5 for a railroad car entrance or exit control, including a turnstile.

**47 Drop-arm type:**

This subclass is indented under subclass 46. Device in which the wings are mounted to project outwardly in passage barring position when they complete rearward travel and to move inwardly or downwardly as they complete forward travel, so as to occupy a lesser plan area.

**48 WITH SECTION FOR HAND SIGNALING:**

This subclass is indented under the class definition. Device wherein the closure is provided with a cut-out portion or a movably mounted section, openable to a size to permit a person to thrust his arm through the opening to give a signal, e.g., to a following vehicle.

SEE OR SEARCH THIS CLASS, SUBCLASS:

146, for a closure adjustable as an entity while in the raised closed position to provide a vertical ventilating opening.  
169+, for a closure with an independently movable wicket, and especially subclass 171 for a closure for a peep hole or letter slot.

**49 WITH TRAFFIC DIRECTOR OR CONTROLLER; E.G., ONE-WAY:**

This subclass is indented under the class definition. Device comprising a closure mounted to bar a passage, and further provided with means to either (1) guide or point out the course of

travel through the passage, (2) restrict travel through the passage to only one direction, or (3) regulate the number of persons permitted through the passage, e.g., at the same time.

SEE OR SEARCH THIS CLASS, SUBCLASS:

42+, for a revolving closure for directing or controlling traffic through a passage, especially subclasses 46+ for a turnstile.

68, for a passage which confines the path of travel of the user, and a series of closures for the passage, used successively by the traveler.

SEE OR SEARCH CLASS:

105, Railway Rolling Stock, subclasses 341+ for a railroad car having an entrance or exit control.

222, Dispensing, subclass 483 for a discharge controller interrelated with the movement or position of a plurality of closures.

**50 WITH PROTECTIVE GRILLE OR SAFETY GUARD:**

This subclass is indented under the class definition. Device comprising (1) a main closure and an openwork panel overlying the main closure in back-to-back relationship, one of which is movable or removable, or (2), a movable or removable shield which blocks a passage vacated by a closure to prevent unlawful entry or accidental travel through the passage.

SEE OR SEARCH THIS CLASS, SUBCLASS:

38+, for a single closure with spaced openings which register with the openings in a passage blocking member.

61+, for an auxiliary closure and see the search notes thereto for the loci of other back-to-back closures.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 37 for a workman's guard or support on or adjacent a portal frame, and subclass 208 for a grille or panel permanently mounted on a barrier adjacent a portal opening.

- 109, Safes, Bank Protection, or a Related Device, subclasses 11+ for movable protective shields for display partitions and counters.
- 454, Ventilation, subclasses 196+ for a window ventilator insertable in a passage vacated by a closure.
- 51 Facing interconnected movable louvers:**  
This subclass is indented under subclass 50. Device wherein the open-work panel overlies louver type closures.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
74.1+, for louver type closures, the definition thereof; and see the search notes thereto for the loci of other louver type closures.
- SEE OR SEARCH CLASS:  
109, Safes, Bank Protection, or a Related Device, subclass 15 for bank protection devices which include movable louvers.
- 454, Ventilation, subclasses 313+ for a device for admitting air into a ventilated space which includes moveable louvers, subclasses 347+ for an air pump which exhausts air from a ventilated space and which may be associated with moveable louvers, and subclasses 358+ for a device which exhausts air from a ventilated space which may be associated with moveable louvers.
- 52 Closure operator extends through grille:**  
This subclass is indented under subclass 50. Device provided with a mechanical means movable relative to the closure for imparting movement to the closure which means extends through the openwork panel.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
51, for an operator for louver type closures extending through a grille.  
356, for a single lever push rod operator for a movable closure.
- SEE OR SEARCH CLASS:  
454, Ventilation, subclasses 290 and 322+ for an operator extending through a register grille to impart movement to a pivoted valve combined with ventilating structure, e.g., air duct, air directing structure.
- 53 Swinging handle actuator:**  
This subclass is indented under subclass 52. Device provided with means applying a force to a closure and which includes a member which is adapted to be grasped by hand and moved in an arcuate path.
- 54 Carried by closure to vacated opening:**  
This subclass is indented under subclass 50. Device provided with means joining the grille or guard to a closure, wherein movement of the closure moves the grille or guard to the position in the opening vacated by the closure.
- SEE OR SEARCH CLASS:  
160, Flexible or Portable Closure, Partition, or Panel, subclass 102 for a flexible panel connected to and moved by a slidable rigid closure.
- 55 Adjustable to various size opening:**  
This subclass is indented under subclass 50. Device provided with means to adjust the grille or guard to fit openings of different widths or heights.
- 56 Moves relative to primary closure:**  
This subclass is indented under subclass 50. Device provided with means mounting the grille or guard for movement along a predetermined path with respect to the main closure.
- 57 Removable:**  
This subclass is indented under subclass 50. Device provided with means mounting the grille or guard so as to be readily physically disassociated from its supporting structure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
55, for a removable grille or guard adjustable to fit various size openings.  
463+, for a removably mounted closure and see the search notes thereto for the loci of other removable closures.

**58 WITH ANIMAL BLOCKER REPELLER OR CHASER:**

This subclass is indented under the class definition. Device including a means to prevent or deter the use of the closure passage by animal life, or to frighten or repulse animal life away from the closure.

- (1) Note. The word “animal” includes mankind, insects and birds.
- (2) Note. With respect to the subject matter of this subclass, this class (49) is superior to Class 160, Flexible or Portable Closure, Partition, or Panel. Consequently, patents otherwise classifiable in Class 160 are placed here on the basis of the subject matter of this subclass.

**SEE OR SEARCH CLASS:**

- 43, Fishing, Trapping, and Vermin Destroying, subclasses 58+ particularly subclasses 61 and 119 for a device for trapping and/or killing an animal, and subclasses 124+ for a device for killing animals.
- 52, Static Structures (e.g., Buildings), subclass 101 for an animal; blocking lateral projection, flap or scarer.
- 424, Drug, Bio-Affecting and Body Treating Compositions, appropriate subclass for a composition for repelling an animal, including an insect, e.g., moth repellent, etc.

**59 Electrically charged:**

This subclass is indented under subclass 58. Device in which the closure is supplied with an electric potential to shock an animal or person coming in contact therewith.

**SEE OR SEARCH CLASS:**

- 43, Fishing, Trapping, and Vermin Destroying, subclass 98 for an animal trap having means to deliver a lethal or paralyzing electric shock to the animal, and subclass 112 for a device for electrocuting insects.
- 109, Safes, Bank Protection, or a Related Device, subclass 35 for a device of that class having an electrically charged surface.

- 256, Fences, subclass 10 for an electrically charged fence.

**60 Actuated by closure movement:**

This subclass is indented under subclass 58. Device provided with means interconnecting the closure and the blocker, repeller or chaser so that movement of the closure effects movement of the latter.

**61 FACIALLY OPPOSED PRIMARY AND AUXILIARY CLOSURE FOR COMMON OPENING:**

This subclass is indented under the class definition. Device comprising a main closure for an opening and an additional supplementary closure which overlies the main closure in a back-to-back relationship in their operative closed position, one of which closures is movable or removable.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

- 50+, for a grille, face to face with a closure, or a guard occupying a passage vacated by the closure and adapted to prevent unlawful entry or unintentional travel through the passage.
- 68, for a plurality of closures spaced at intervals along a course of travel.
- 125+, for plural closures for a single opening which move to an inoperative position overlying one another in back-to-back relationship.

**SEE OR SEARCH CLASS:**

- 52, Static Structures (e.g., Buildings), subclasses 202+ for an auxiliary shield attached to a main panel, barrier, or frame.
- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 90+ for facially opposed primary and screened auxiliary closures.

**62 Auxiliary movable or removably mounted on primary:**

This subclass is indented under subclass 61. Device in which the auxiliary closure is mounted on the main closure for movement thereon or so as to be readily, physically disassociated therefrom.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 163+, for a closure movable independently of and with another closure.  
 463+, for a removable closure.
- 63 Auxiliary mounted for movement:**  
 This subclass is indented under subclass 61. Device provided with means mounting the auxiliary closure for movement along a predetermined path of travel.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 404+, for a closure mounted for reciprocating movement.
- 64 Of interconnected movable louvers:**  
 This subclass is indented under subclass 63. Device wherein the auxiliary closure is a louvered closure of the type defined in subclass 74.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 74.1+, for louver type closures, and see the search notes thereto for the loci of other louver type closures.
- SEE OR SEARCH CLASS:  
 160, Flexible or Portable Closure, Partition, or Panel, subclass 104 for louvers facially opposing a flexible panel.
- 65 Connected for movement with primary:**  
 This subclass is indented under subclass 63. Device provided with means mounting the main closure for movement and further provided with means joining the auxiliary closure to the main closure so that the auxiliary closure is carried by the main closure in its movement, or movement of the main closure effects a movement of the auxiliary closure on its mounting means.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 54, for a safety guard carried by a main closure to a substitute position.
- 66 Sliding primary imparts swinging movement:**  
 This subclass is indented under subclass 65. Device wherein the main closure is mounted for sliding movement and the auxiliary closure is mounted for swinging movement, and wherein the sliding movement of the main closure causes a swinging movement of the auxiliary closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 73, for a sliding closure and a swinging closure interconnected for concurrent movement.
- 67 Pivoted:**  
 This subclass is indented under subclass 63. Device wherein the means mount the auxiliary closure for swinging movement.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 381+, for a closure mounted for swinging movement.
- 68 SEQUENTIAL CLOSURES FOR PASSAGEWAY:**  
 This subclass is indented under the class definition. Device comprising a course of travel which confines the user thereto, and a plurality of closures spaced at intervals along the course, and used in turn by the user passing from one end of the course to the other, e.g., an air shaft having a hatchway on successive floors or "air locks" from ambient to a special atmosphere.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 49, for a closure in a passageway combined with a means to restrict the direction of travel or number of users.  
 50+, for a grille mounted face to face with a closure and mounted in the same opening.  
 61+, for two or more closures mounted face to face and occupying the same opening.  
 93, for interconnected closures on opposite approaches to a crossing.

**69 MAIN CLOSURE ACTUATES SUPPLEMENTAL CLOSURE FOR TRACKWAY:**

This subclass is indented under the class definition. Device having a main opening and adjacent and continuous therewith a small opening which is adapted to accommodate a conveyor track, closures for each opening, and wherein means are provided so that movement of the closure for the main opening imparts a movement to the closure for the other opening.

**70 COMBINED:**

This subclass is indented under the class definition. Device cooperatively united with an adjunctive second device, said second device, e.g., automatic control, having a function serving to perfect a movable closure for its intended purpose, other than being an ancillary device, e.g., operator, hinge, seal, for the movable closure.

SEE OR SEARCH CLASS:

- 5, Beds, subclass 171 for a bed carried by a closure and shifted into position by movement of the closure.
- 182, Fire Escape, Ladder, or Scaffold, subclasses 77+ for a ladder combined with a door.

**71 WITH SIDE PANELS; E.G., AWNING:**

This subclass is indented under the class definition. Device comprising distinct wings on the side edges of the closures and angularly related to and movable therewith.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 64+ for a side winged barrier mounted for repositioning, such as a wall swingable from a vertical to nonvertical position, and subclasses 74+ for a fixed awning having side panels.
- 454, Ventilation, subclasses 196+ for air deflecting side panels fixed to the portal frame.

**72 WINDOW POSITION OR MOVEMENT INTERRELATED WITH DOOR LATCH:**

This subclass is indented under the class definition. Device comprising a first closure (door) mounted for movement, a second closure (window) mounted for movement on said first clo-

sure, a means for holding the first closure in position, a means for moving or sensing the location of the second closure, and a connection between the two means so that movement of one affects movement of the other.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 73.1+, for closures interconnected for concurrent movement.
- 163+, for a window mounted on a movable closure and movable independently of the closure.
- 279+, for a closure operator interrelated with a closure latch release.

**73.1 CLOSURES INTERCONNECTED FOR CONCURRENT MOVEMENT:**

This subclass is indented under the class definition. Closures mounted for movement on independent mounting means and further provided with means joining said closures to each other so that movement of one of said closures affects a simultaneous movement of another.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 66, for a sliding main closure which imparts swinging movement to an auxiliary closure.
- 69, for a main closure which actuates a supplemental track closure.

SEE OR SEARCH CLASS:

- 160, Flexible or Portable Closure, Partition, or Panel, appropriate subclasses for panel units interconnected for relative motion as defined in section III, class definition of Class 160.

**74.1 Louver-type closures (e.g., slats or panels):**

This subclass is indented under subclass 73.1. Closures which are superimposed or aligned panels mounted to swing together in the same direction for varying the angle, said panels form a plane or surface defined by the longitudinal terminal edges of said panels and wherein adjacent edges of the panels contact each other in the closed position to effect a closure between them.

- (1) Note. Included in this subclass is a shutter-type structure with movable fin-type members (i.e., panel) or window panes

(i.e., transparent panel) e.g., jalousie-type.

- (2) Note. Included in this subclass are louvered closures which are mounted on a movable frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 51, for louver-type closures face-to-face with a protective grille.
- 64, for louver-type auxiliary closures.
- 163+, for a closure movable independently of and with another closure.
- 371, for independently swinging louvers which bar a single opening.
- 403, for a clip for pivotally mounting a movable louver panel.

SEE OR SEARCH CLASS:

- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 130+ for louver devices in which the slats are flexible, or in which the slats are interconnected to each other for relative movement, or in which the slats may be accumulated; i.e., moved toward each other to form a bunch or holding them so accumulated and see section III of the class definition of this class.
- 362, Illumination, subclass 325 for a projector screen having movable slats; e.g., louvers.
- 454, Ventilation, subclass 31 for louvers in combination with a fluid moving means (e.g., fan).

- 77.1 Distinct groups of louver-type closures:**  
This subclass is indented under subclass 74.1. Closures which are divided into sets with each set concurrently movable panels.

- 79.1 Manipulation of control louver panel connects or disconnects remaining louver panels:**  
This subclass is indented under subclass 74.1. Closures wherein the means uniting the panels include a mechanism for securing one of the panels to the remaining panels, whereupon movement of said one panel within a predetermined limit will operate the remaining panels concurrently, and further movement of said one panel will alternately disengage said mecha-

nism to permit independent movement of said one panel and re-engage said mechanism for concurrent movement of all the panels.

- 80.1 Louver panels move sequentially or independently:**

This subclass is indented under subclass 74.1. Closures wherein (1) one of the panels begins its movement in advance of another or (2) is capable of a movement which is separate and distinct from another member's movement.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 79.1, for a manipulatable control louver panel which connects and disconnects the remaining panels.
- 98+, for other closures with concurrent and independent movement.
- 103, for other interconnected closures with sequential movement.

- 81.1 Multidirectional louver panel movement:**  
This subclass is indented under subclass 74.1. Closures wherein the panels move either (1) along at least two lines or planes of travel; e.g., shift vertically and swing out, or (2) about two or more axes of travel, or (3) both in a single operation.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 208+, for a closure mounted for multidirectional movement.

- 82.1 Geared, interconnector, or operator:**  
This subclass is indented under subclass 74.1. Closures wherein the (1) joining means between the panels or (2) operator for the closure joining means includes a rotatable body imparting or receiving motion or power from some other member by rolling contact.

- (1) Note. Included in this subclass are rotatable meshing toothed wheels, worm-type mechanism, rack and pinion-type mechanism, thrust bearing-type, or ratchet wheel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 107+, for a geared interconnector or operator for concurrently swinging closures.

- 335+, for an operator for a swinging closure which includes a gear coaxial of the closure pivot.
- 341+, for an operator for a swinging closure which includes a gear driven lever.
- 86.1 Cable, interconnector, or operator:**  
This subclass is indented under subclass 74.1. Closures wherein the (1) joining means between the panels or (2) operator for the panel joining means includes a flexible element such as a wire, rope or the like.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
104, for a cable interconnecting swinging closures.
- 87.1 Operating system includes a handle:**  
This subclass is indented under subclass 74.1. Closures provided with an actuator which is grasped by the hand.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
51, for a louver-type closure handle actuator which extends through a grille.  
359, for an operator for a movably mounted closure which includes a lever actuator which is manually grasped.
- 89.1 Operating system includes biasing means:**  
This subclass is indented under subclass 74.1. Closures provided with a means to urge the panels in a desired direction or to a desired position; e.g., a spring or weight.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
21+, for a louver closure biased to a desired position, and having means responsive to the presence of a fluid to move the closure against the action of the biasing means.  
386+, for a biasing means for a swinging closure.
- 90.1 With position holder for operating system:**  
This subclass is indented under subclass 74.1. Closures with means in addition to an actuator or operator for maintaining the panels in a desired position.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
87.1, for a position holder associated with a handle-type actuator.  
503, for a closure panel modified to accommodate a latch or lock.
- SEE OR SEARCH CLASS:  
292, Closure Fasteners, subclass 345 for blind slat holders.
- 91.1 With weather seal feature:**  
This subclass is indented under subclass 74.1. Closures provided with means acting at the juncture of two adjacent panels or between the mounting framework and panels to oppose the passage of fluid therebetween.
- (1) Note. Included in this subclass are devices wherein the panels are shaped to fit within or against a portion of the adjacent panel to provide a weather seal therewith.
- (2) Note. A mere overlap of planar surfaces is not considered "configured" within the meaning of this subclass.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
475.1+, for a closure seal or striker gasket.
- 92.1 Specific louver structure:**  
This subclass is indented under subclass 74.1. Closures in which particular significance is attributed to the design of the panel.
- 93 Closures on opposite approaches to crossing:**  
This subclass is indented under subclass 73. Device wherein there is a first passageway intersecting the path of travel of a second passageway, e.g., a motor road and railroad with the concurrently movable closures being positioned in the path of travel at opposed accesses to the first passageway.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
68, for successive closures along a passageway.  
95, for interconnected closures on opposite barriers.

**94 Closures on opposite or angularly related barriers:**

This subclass is indented under subclass 73. Device provided with opposite or converging passage-blocking surfaces, e.g., wall and roof, each having an opening, and wherein a concurrently movable closure is mounted in an opening on each surface.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

36, for a continuous opening in converging passage blocking surfaces, and having either a concurrently movable closure for each surface opening or a single closure for the entire opening.

**95 Closures in spaced openings along barrier:**

This subclass is indented under subclass 73. Device provided with an extended passage-blocking surface having a plurality of separate openings, and wherein a concurrently movable closure is mounted in each of the openings.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

3, for closures in plural openings with a common fusible release.  
15+, for jail type closures in spaced openings along a barrier.  
24, for a master control for individually controlled closures.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 206+ for a wall with plural portals.  
109, Safes, Bank Protection, or a Related Device, subclass 13 for a plurality of openings with protective shields.

**96 Levers acting between interconnector and closures:**

This subclass is indented under subclass 95. Device provided with an elongated, rigid, pivoted member joining each of the closures to the common means connecting all of the closures.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

353+, for an operating lever and closure which swing about parallel axes.

**97 Rock shaft interconnector:**

This subclass is indented under subclass 96. Device wherein the interconnector includes a shaft mounted for partial rotation along its longitudinal axis to impart movement to the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

19, for a plurality of jail type closures interconnected by a rotary bar.

**98 One closure with complete independent movement:**

This subclass is indented under subclass 73. Device wherein one of the closures is capable of a movement, to a limit of its travel, which is separate and distinct from its concurrent movement with another closure, e.g., one door opens completely without movement of the other.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

20, for jail type ganged closures with means to selectively couple a closure to the gauge control.  
79.1, for a control louver type closure which is alternately connected and disconnected to the remaining closures.  
80.1, for interconnected louver type closures with concurrent and independent movements.

**99 Counterbalancing closures with adjustable or detachable cable interconnector:**

This subclass is indented under subclass 98. Device provided with a flexible chain, rope or the like joining the closures so that the weight of one closure assists in balancing the weight of the other closure, and wherein means are provided to lengthen, shorten or disconnect the cable to move or permit movement of the one closure independently of the other.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

121, for a cable interconnector for counterbalancing closures.  
347, for a pull type cable operator for a sliding closure.

**100 Moves at different speeds:**

This subclass is indented under subclass 73. Device wherein the means joining the closures moves one closure faster than another in their opening or closing movement; e.g., so that the closures may move different distances but arrive simultaneously at their limit of movement, and closures may move from a stacked open position on one side of the closure opening to an overlapped closed position.

**101 Lever interconnected:**

This subclass is indented under subclass 100. Device wherein the means joining the closures includes an elongated, rigid, pivoted arm.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

359, for a lever actuator mounted on and moving a single closure.

**102 Cable interconnected:**

This subclass is indented under subclass 100. Device wherein the means joining the closures includes a cable, i.e., a flexible chain, rope or the like.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

123, for a cable interconnecting oppositely moving closures, and see the search note thereto for the loci of other cable interconnectors.

**103 Sequential movement:**

This subclass is indented under subclass 73. Device wherein one of the closures begins its movement in advance of another.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

80.1, for interconnected louvers with sequential movement.

**104 Closures mounted for swinging:**

This subclass is indented under subclass 73. Device provided with means mounting the closures for rotation about an axis.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

366+, for bipartite, center-opening, independently swinging closures for a single opening.

381+, for a closure mounted for swinging movement.

**105 Treadle or treadle bar interconnector:**

This subclass is indented under subclass 104. Device wherein an operator includes a member or a pair of members joined by a transverse connector, the member or members being movable by the weight of the user of the closure, and connected to each closure so as to compel concurrent movement of each closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

110+, for a treadle actuated pivoted lever or lever system connected to each closure to compel concurrent movement.

263+, for a pedal, treadle or impact actuated operator.

**106 Common interconnector actuated from opposite approaches:**

This subclass is indented under subclass 105. Device wherein the treadle is located adjacent the user's path of movement to and from each side of the closures and wherein the treadles are connected by the same means which interconnects the closures.

**107 Geared, interconnector or interconnector operator:**

This subclass is indented under subclass 104. Device wherein the means for uniting the closures or the operator of the closure joining means includes meshing gears.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

82.1, for a geared interconnector or operator for interconnected louvers.

**108 Drives lever pivoted on closure:**

This subclass is indented under subclass 107. Device wherein the means joining the closures include a lever pivoted to each closure, and wherein the meshing gears impart movement to each lever.

- 109 Link or link system interconnected:**  
This subclass is indented under subclass 104. Device wherein the means joining the closures includes a lever pivoted at two or more points or a series of such levers which are pivotally connected.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
122, for a lever interconnecting closures for opposed movement.
- 110 With operator or energy stored opening means:**  
This subclass is indented under subclass 109. Device provided with a manipulatable mechanical means movable relative to a closure or a means to store potential energy, e.g., a spring for imparting an opening movement to the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
108, for a meshing gear operator which drives a closure pivoted lever.  
353+, for an operating lever and closure which swing about parallel axes.  
379, for a latch release of movement-stored energy.
- 111 Allochiral link system from closures to input connection:**  
This subclass is indented under subclass 110. Device comprising two mirror image elongated, pivoted, rigid arms or such arm systems, each extending from a closure to a common connection on the means which applies an opening force to the closures.
- 112 Input acts at pivot of diverging links:**  
This subclass is indented under subclass 111. Device wherein the two mirror image arms each comprise a single lever pivoted at one end to a closure and converging at its other end to a common pivotal connection, and wherein the opening force is applied to the common pivotal connection.
- 113 Links sliding carriage mounted:**  
This subclass is indented under subclass 112. Device wherein the common pivotal connection of the arms is carried by a member which reciprocates along a guide rail.
- 114 Actuating force applied through one closure to other closure:**  
This subclass is indented under subclass 110. Device wherein the moving force of the manipulative mechanical means is applied to one closure which in turn transmits the moving force to another closure.
- 115 Cable interconnector sheaved on closure pivots:**  
This subclass is indented under subclass 104. Device wherein the means joining the closures includes a cable, i.e., flexible chain, rope or the like and wherein the cable is trained on a pulley or drawn coaxial with the closure pivots.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
104, for other cable interconnections for swinging closures.  
288, for a cable operator, interrelated with a closure latch release, sheaved on a closure pivot.  
333+, for a cable operator sheaved on a closure pivot.
- 116 Opposed similar movement:**  
This subclass is indented under subclass 73. Device wherein the closures move in the same manner but in a reverse direction in their opening movement.
- 117 With actuator on opposite approaches:**  
This subclass is indented under subclass 116. Device provided with a force input mechanical means to impart movement to the closures, and wherein the input thereof is located adjacent the user's path of movement to and from each side of the closures.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
327+, for a closure operator actuated from opposite approaches, and see the search notes thereto for the loci of other operators actuated from opposite approaches.
- 118 Motor driven:**  
This subclass is indented under subclass 116. Device provided with a motor, i.e., powered means, other than a mere spring, for imparting movement to the closures.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 334, for a motor driven coaxial operator, and see the search notes thereto for the loci of other motor driven closures.
- 119 Counterbalance effect derived from opposed closure:**  
 This subclass is indented under subclass 116. Device wherein the weight of one closure assists in balancing the weight of another closure moving in a reverse direction, i.e., opposed vertical movement.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 5+, for counterbalanced, interconnected closures with a fusible connection therebetween.  
 98+, for counterbalanced opposed closures with means to permit independent movement.
- 120 Bipartite, center-opening type; e.g., elevator door:**  
 This subclass is indented under subclass 119. Device wherein the closures move apart in opposite directions from an edge to edge closed position.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 366+, for reciprocating, bipartite center-opening closures.
- 121 Cable interconnected:**  
 This subclass is indented under subclass 119. Device wherein the counterbalancing effect is through a cable, i.e., flexible chain, rope or the like joining the closures.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 99, for counterbalancing closures with an adjustable cable-interconnector in which the cable is adjustable or detachable.
- 122 Lever interconnected:**  
 This subclass is indented under subclass 116. Device wherein the means uniting the closure includes a lever, i.e., elongated, rigid, pivoted arm.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 101, for a lever interconnecting closures which move at different speeds.  
 109+, for a lever interconnecting swinging closures.
- 123 Cable interconnected:**  
 This subclass is indented under subclass 116. Device wherein the means uniting the closures includes a cable, i.e., a flexible chain, rope or the like.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 102, for a cable interconnecting closures which move at different speeds.  
 104, for a cable interconnecting swinging closures.  
 115, for a cable interconnector sheaved on closure pivots.  
 121, for a cable interconnecting counterbalancing closures.
- 124 EXTENSIBLE BAR SECTIONS:**  
 This subclass is indented under the class definition. Device comprising shaft sections connected together and relatively movable to increase the effective length thereof to close or open an opening as by telescoping, folding or contracting.
- 125 MOUNTED FOR MOVEMENT TO FACIALLY STACKED POSITION:**  
 This subclass is indented under the class definition. Device comprising two or more closures, each mounted to move from a relatively extended, nonoverlapping passage blocking position to an inoperative, overlapping position at one side of the passage.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 44+, for a plural wing revolving door in which the wings fold against one another to form a through opening.

- 100+, for closures interconnected for concurrent movement which move from a stacked open position to an extended passage blocking position at different speeds.
- 124, for a closure consisting of extensible bar sections which stack in the open position of the closure.
- SEE OR SEARCH CLASS:
- 160, Flexible or Portable Closure, Partition, or Panel, subclass 202 and subclass 218 for stacked closure sections each having interengagement with a following section, so that the first moved connects to and moves the second, and so forth.
- 126 From vertical to horizontal overhead stacked position:**  
This subclass is indented under subclass 125. Device wherein the closures are vertically arranged in passage blocking position and move upwardly to a substantially horizontal elevated stacked position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 197+, for a single closure movable from a vertical to a withdrawn horizontal overhead position.
- 127 From collinear to stacked position:**  
This subclass is indented under subclass 125. Device in which the closures are in edge to edge alignment in their closed position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 128+, for a closure movable from colinear alignment with another closure to an offset position.
- 128 COLLINEAR CLOSURES, ONE MOVES TO OFFSET POSITION:**  
This subclass is indented under the class definition. Device wherein two or more closures are in edge to edge alignment in the closed position, and wherein one of the closures is displaced from alignment to a parallel nonaligned position, to allow travel of one of the closures or to bypass another closure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 127, for closures which move from a closed, colinear position to a stacked open position.
- 209+, for a single closure which moves to an offset position relative to an aligned wall.
- 129 Moved closure has additional movement:**  
This subclass is indented under subclass 128. Device wherein the closure which moves to an offset position has a further movement distinct from its movement to and within its offset position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 149+, for a closure having a plurality of distinct, optionally used movements.
- 130 Horizontal sliding:**  
This subclass is indented under subclass 128. Device wherein the movement subsequent to the movement to an offset position is constrained and rectilinear.
- 131 CLOSURE SURFACE MOVED TO INOPERATIVE POSITION FLUSH-WITH-GROUND:**  
This subclass is indented under the class definition. Device provided with means mounting the closure for movement, and wherein said means is located at the lower edge of the closure so that the closure in its open position lies upon or below the surface it closes or barricades, the user passing over the closure face while it is in said open position, e.g., highway mounted gates which pivot down to permit a vehicle to ride over them.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 10+, for a flood gate which moves to a flush position.
- 33, for a pit or obstacle bridging flush closure.
- 372+, for a closure stored in a housing adjacent an opening wherein the object may pass over the closure edge.

**132 Treadle actuated:**

This subclass is indented under subclass 131. Device provided with a treadle operated mechanical means imparting movement to the closure, the operation of the means being effected by the weight of an object, such as a foot or vehicle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

263+, for a pedal, treadle or impact actuated operator.

**133 Actuation raises closure to blocking position:**

This subclass is indented under subclass 132. Device wherein actuation of the treadle moves the closure from an inoperative flush position to an elevated passage blocking position, usually closures extending between or across the rails of a railroad track to prevent cattle from straying up or down the track.

**134 Treadle on opposite approaches:**

This subclass is indented under subclass 133. Device which include either (1) two separate closures on opposite sides of a crossing, each actuated by a treadle, or (2) a closure having a treadle operator on each approach so as to be actuated if approached from either end.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

93, for closures on opposite approaches to a crossing interconnected to move concurrently.

**135 WITH WIND VANE OR SAIL:**

This subclass is indented under the class definition. Device comprising an imperforate portion mounted on the opposite side of the mounting means from the closure and constituting an extension thereof, to counterbalance the force of the wind tending to move the closure about its mount.

**136 SINGLE ACTUATOR SELECTIVELY MOVES INDIVIDUAL CLOSURES:**

This subclass is indented under the class definition. Device provided with means for mounting each of a plurality of closures for individual movement; and further provided with a single closure moving means, and wherein each clo-

sure is selectively connected to the closure moving means for movement thereby.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

16, for jail type closures with a common remote operator and individual proximate operators.

SEE OR SEARCH CLASS:

74, Machine Element or Mechanism, subclasses 665+ for plural power paths to or from separate devices to be moved, and a common actuating gearing.

475, Planetary Gear Transmission Systems or Components, for planetary transmission to drive plural loads.

**137 UNITARY OR INTERRELATED FLUID OPERATOR AND CLOSURE CHECK:**

This subclass is indented under the class definition. Device provided with a fluid driven operator, said operator including additional fluid means which cushions the closure movement as it approaches its open or closed position.

**138 WITH MEANS TO VARY OPENING SPAN OR SPEED DURING MOVEMENT:**

This subclass is indented under the class definition. Device provided with means for applying a force to impart movement to a closure, said means including in its train a mechanism for (1) changing the force of its output to vary the rate of the closure movement, or (2) changing the limit of the total movement of the closure in an opening direction.

**139 OPTIONALLY MOVED, MANUALLY, OR BY MOTOR:**

This subclass is indented under the class definition. Device provided with powered means (other than a mere spring) to move the closure and with a manipulatable mechanical means to move the closure or means to disconnect the motor drive to closure, the means or motor being used interchangeably and at the choice of the user.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

26+, for a motorized closure operator having means responsive to an obstruction to release the drive; e.g., to

- permit manual arrestation or reversal of closure movement.
- 98+, for closures interconnected for concurrent movement and having means permitting independent movement.
- SEE OR SEARCH CLASS:
- 74, Machine Element or Mechanism, subclasses 625+ for alternate manual and power operators for devices of that class.
- 91, Motors: Expansible Chamber Type, subclass 391 for a motor of that class and alternate manual means for moving the load.
- 475, Planetary Gear Transmission Systems or Components, subclasses 1+ for plural power inputs.
- 140 With manually actuated operator:**  
This subclass is indented under subclass 139. Device provided with a hand actuated mechanical means which is movable relative to the closure for imparting movement thereto.
- 141 WITH SPECIFIED MEANS TO EFFECT EMERGENCY RELEASE TO CLOSURE:**  
This subclass is indented under the class definition. Device (1) comprising a closure which is defined as made of frangible or easily broken material which is destroyed to gain access through the closed passage, or (2) wherein the closure is retained in closed position by a defined means which must be deformed or destroyed or which requires an excessive amount of force to release the closure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 44+, for a plural winged closure with means to permit the wings to collapse for emergency exit.
- 139+, for a closure moved by a motor and having means providing for emergency manual operations; e.g., in the event of motor failure.
- SEE OR SEARCH CLASS:
- 70, Locks, subclass 92 for door locks having emergency release means.
- 105, Railway Rolling Stock, subclasses 348+ for emergency exits for railway passenger cars.
- 292, Closure Fasteners, subclasses 92+, for panic bar latches.
- 142 PLURAL CLOSURES, EACH WITH INDEPENDENT DIVERSE MOVEMENT:**  
This subclass is indented under the class definition. Device comprising two or more closures mounted for movement, and wherein the type of movement of each closure is different from and independent of the other, including closures mounted for swinging about differently oriented axes or sliding in different angular directions.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 163+, for a closure which moves independently of and as a part of another closure.
- 143 One sliding and other swinging:**  
This subclass is indented under subclass 142. Device provided with means supporting one of the closures for a constrained sliding rectilinear movement and means mounting another closure for swinging movement about a fixed pivot.
- 144 One slides up to close, other vents about vertical axis:**  
This subclass is indented under subclass 143. Devices wherein the sliding closure moves vertically to an elevated passage blocking position and the swinging closure or turns about a vertically oriented pivot to provide a ventilating slot or opening at an upright edge of the closure.
- 145 One slides vertically, other swings about horizontal axis:**  
This subclass is indented under subclass 143. Devices wherein the sliding closure moves in an up and down direction and the swinging closure turns about a horizontally arranged pivot.
- 146 VERTICALLY RECIPROCABLE, ADDITIONAL SIDEWARD VENTING MOVEMENT FROM CLOSED POSITION:**  
This subclass is indented under the class definition. Device provided with means to mount a sliding closure for raising and lowering movement, and further provided with means to permit movement of the closure in a raised position to provide a ventilating slot or opening adjacent an upright edge of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 48, for a closure having a cut-out portion or a movably mounted section to provide a vertical opening for hand signalling.
- 227, for a housed closure mounted for multidirectional movement in its plane to and from an open housed position and a raised, closed position out of its housing.

**147 CLOSURE HANGS ON FLACCID CONNECTOR:**

This subclass is indented under the class definition. Device wherein the means mounting the closure for movement is flexible, or limp, such as a rope, chain or fabric.

**148 DISPARATE SUPPORT FOR DISPLACED CLOSURE:**

This subclass is indented under the class definition. Device comprising either (1) a device other than the means to guide the closure in its movement, located adjacent the closure opening or (2) a closure movement guide movable to a nonguiding position which means (1) or (2) acts to brace or hold a closure when the closure is disassociated from the movement support or its supported-for-movement position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 463+, for a removable closure not having a disparate support.

**149 MOUNTED FOR OPTIONAL MOVEMENTS:**

This subclass is indented under the class definition. Device wherein the closure is mounted for two or more distinct opening and closing movements, used interchangeably and optionally by the user, and wherein different or additional mounting means are provided for the several movements, e.g., structures in which the closure may be adjusted vertically to permit the passage of small animals and may either be moved in this adjusted position to form another opening or returned to its original lowered position and then moved. See particularly subclasses 158+ and 190+.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 44, for a revolving door in which the wings may be moved to one side of the opening to provide a through opening.
- 129, for a closure having optional movements in which one of the movements is from an edge to edge alignment to an offset position with respect to another closure.
- 208+, for a closure mounted to have a combination of simple movements (e.g., sliding and swinging) in a single opening movement.
- 382, for a closure having means for mounting the same hinge at different points usually to allow swinging in reversed directions.
- 453+, for a reciprocating closure having a movable or removable guide to permit removal of the closure from its supporting frame.

**150 Common counterbalance for sliding and swinging movements:**

This subclass is indented under subclass 149. Device wherein the optional movements include a sliding, i.e., guided rectilinear and swinging, i.e., turning about a fixed pivot and comprising a means to compensate for the weight of the closure to hold it in an adjusted position during either movements, as by connection to the closure above the horizontal pivots on which it swings.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 445+, for a counterbalance for a reciprocating closure and see the search notes thereto for the loci of other counterbalances.

**151 Cable guide changes direction of counterbalancing force:**

This subclass is indented under subclass 150. Device wherein a flexible cable transmits the counterbalancing force of the closure weight compensating means to the closure with the cable being trained around a cable guide on a nonswinging element so that the direction of the counterbalancing force is changed during the swinging movement of the closure.

**152 One movement multidirectional:**

This subclass is indented under subclass 149. Device wherein one of the optional opening or closing movement is multidirectional, i.e., along two or more different lines or planes of travel.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

208+, for a closure with a single opening and closing movement which is multidirectional, and see the search notes thereto for the loci of other multidirectional movements.

**153 Swings on link:**

This subclass is indented under subclass 152. Device wherein the multidirectional movement is effected by a link pivoted at one end on a support and at its opposite end to the closure so that the closure moves about the axes of both pivots.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

246+, for a closure mounted to swing about plural axes; e.g., at each end of a link arm.

**154 Other movement is sliding on link at balance point of closure:**

This subclass is indented under subclass 153. Device wherein the end of the link which pivotally supports and carries the closure is adjacent its center of mass and is further provided with means mounting said closure on said end of the link for a distinct and alternate opening and closing sliding movement.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

253, for a closure with a single opening and closing movement on a pivotal link arm which mounts the closure adjacent its center of mass.

**155 Other movement is sliding within portal frame:**

This subclass is indented under subclass 153. Device which in addition to the link effected multidirectional movement there is means providing for sliding movement of the closure rel-

ative to frame defining the opening for the closure.

**156 Slides on pivoted support, other movement is relative vertical adjustment:**

This subclass is indented under subclass 152. Device wherein the multidirectional movement is effected by a link pivoted mounted at one end on a support and at its opposite end to the closure, said opposite end also being mounted for reciprocation relative to the closure arm for reciprocation prior to swinging, and wherein the other movement is effected by means to vary the position of the closure vertically relative to the pivoted arm.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

190+, for a closure which adjusts vertically on a vertical supporting pivot.

258, for a closure which translates on a pivoted support in a single opening and closing movement.

**157 Other movement is vertical sliding:**

This subclass is indented under subclass 152. Device wherein in addition to the multidirectional movement there is means providing for a guided rectilinear vertical movement.

**158 Mounted on rod for sliding or swinging:**

This subclass is indented under subclass 149. Device provided with means mounting the closure for sliding movement along and swinging movement about a fixed elongated slender guide bar at one side of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

190+, for a closure swingable with a vertically oriented pivot member and adjustable vertically with respect to the pivot member.

**159 With latch for sliding movement:**

This subclass is indented under subclass 158. Device comprising a means to hold the closures in a selected one of a plurality of possible positions along the rod, including an operator which both moves the closure and holds it in an adjusted position.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
503, for a closure panel modified to accommodate a lock or latch, and see the search notes thereto for the loci of other closure locks and latches.
- 160 Rod latch:**  
This subclass is indented under subclass 159. Device wherein the closure holding means is mounted on or engages the rod.
- 161 Pivoted closure within framework of double hung sash:**  
This subclass is indented under subclass 149. Device comprising upper and lower vertically sliding closures mounted within a common frame, and wherein an enclosed section is mounted within the surrounding marginal frame of one of said closures for swinging movement relative thereto.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
176+, for a closure pivotally movable relative to side slides.
- 162 Vertical axis pivot:**  
This subclass is indented under subclass 161. Device wherein the enclosed section swings about a vertically oriented axis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
177+, for a closure which is mounted on a pivoted slide mount for swinging about a vertically oriented axis.
- 163 One closure movable separately from or with other closure:**  
This subclass is indented under subclass 149. Device wherein there are means providing for several closure movements, one means mounting one closure for a movement distinct and separate from the movement of another closure and another means mounting said closures for movement together as a unit.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
48, for a movable closure having an independently movable section for hand signalling.
- 62, for an auxiliary closure carried by a primary closure for movement therewith and movable or removable relative thereto.
- 74.1, for concurrently movably louvers mounted in a movable frame.
- 164 Closure slide within swingable frame:**  
This subclass is indented under subclass 163. Device wherein the separate movement of the closures mounted is a sliding movement within a pivotally mounted common supporting frame which allows the closures to swing as a unit.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
196, for a sliding closure which swings with a pivoted guide.
- 165 Divided frame with pivoted section:**  
This subclass is indented under subclass 164. Device wherein the supporting frame comprises fixed and pivoted sections.
- 166 Upper closure mounted on horizontally swinging closure; e.g., sliding window on swinging door:**  
This subclass is indented under subclass 163. Device wherein a first closure is mounted for turning about a vertical axis, and a second closure is carried by the upper portion of said first closure and wherein means are provided for mounting said upper closure for movement distinct and separate from said first closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
72, for a combined window regulator and door latch operator.  
374+, for a closure which reciprocates in and out of a housing formed in a door.
- SEE OR SEARCH CLASS:  
296, Land Vehicles: Bodies and Tops, subclass 146.2 for a combination of a door and a window associated in a vehicle body; and subclasses 149+ for a vehicle body having a plurality of swinging doors having sliding windows which convert a vehicle body from an open to a closed type.

**167 Power conduit for upper closure extends across hinge:**

This subclass is indented under subclass 166. Device provided with a powered means for imparting movement to the upper closure, said means includes a housing or protective covering for an electric or hydraulic conductor which spans the space between the hinge side of the first closure and frame.

SEE OR SEARCH THIS CLASS, SUBCLASS:

334, for a motor driven operator, coaxial of the closure and see the search notes thereto for the loci of other motor driven closures.

**168 Plural independently mounted movable closures:**

This subclass is indented under subclass 163. Device comprising two or more closures each mounted for movement irrespective of any movement of the other but which can be connected together for movement as a unit.

SEE OR SEARCH THIS CLASS, SUBCLASS:

142+, for a plurality of closures in which the type of movement of each closure is different from and independent of the other.

164+, for a plurality of independently sliding closures which swing together on a pivoted frame.

**169 Within encompassing closure:**

This subclass is indented under subclass 163. Device including an auxiliary closure (often termed a wicket) mounted within a main closure so that the major portion of its periphery (i.e., three sides) is surrounded by the main closure, and wherein the auxiliary closure is mounted for movement relative to the main closure.

(1) Note. A mere surrounding marginal frame has not been considered a main closure for this and the indented subclasses. The main closure must be a closure for a substantial area in and of itself. See the search notes below for exemplary loci of closures mounted for movement in surrounding frames.

SEE OR SEARCH THIS CLASS, SUBCLASS:

48, for a closure with a section for signaling.

161, for a pivoted closure in a double hung frame.

176+, for a closure pivotally movable relative to a sliding frame.

SEE OR SEARCH CLASS:

160, Flexible or Portable Closure, Partition, or Panel, subclass 180 for a similar arrangement of the type of closure in that class.

**170 With common edge:**

This subclass is indented under subclass 169. Device wherein the auxiliary closure is mounted to close and opening extending inwardly from the periphery of the main closure so that in closed position of the auxiliary closure its outer edge and that of the main closure coincide.

**171 Viewing, ventilating, or packet passage:**

This subclass is indented under subclass 169. Device wherein the auxiliary closure is movable to cover or uncover a viewing or ventilating opening or a slotted opening for the passage of mail, e.g., "door peeps", "peep holes", "interviewers" or "observation doors".

SEE OR SEARCH CLASS:

109, Safes, Bank Protection, or a Related Device, subclass 21.5 for a bank protection device comprising a protected voice transmitting path, and subclass 58.5 for port type bank protection means.

232, Deposit and Collection Receptacles, subclasses 19+ for a mail box and subclasses 45+ for a chute, having means for mounting the box or chute on a surface; e.g., a closure or its mounting frame. Closure structure in addition to that necessary to mount the box or chute is beyond the scope of Class 232 and will be found in this class (49) and subclass (171).

454, Ventilation, subclass 211 for a ventilating closure mounted on a sash frame combined with subject matter not included in Class 49 (e.g., a

screen) and subclass 212 for a ventilating closure substituted for a pane in a sash.

**172 Edgewise separable stile-slide supports closure for vertical swinging:**

This subclass is indented under subclass 149. Device provided with a sliding member substantially coextensive with the side of the closure on which the closure is mounted for sliding therewith and further provided with means connecting the closure to said member for swinging about a horizontal axis, said member being movable in a plane parallel to the plane of reciprocation of the closure and member to permit swinging of the closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

174+, for a bearing strip, laterally retractable to permit swinging of a closure.

184+, for a longitudinal key strip between opposed grooves in a closure and a sliding stile, which strip is laterally retractable into the closure or stile to permit rotation of the closure about its stile mounted pivot.

316+, for an operator for a movably mounted sealing, guiding or locking strip between a frame and a closure, e.g., to release the closure for swinging movement, and see the search notes thereto for the loci of other movable sealing, guiding or locking strips.

**173 Coil spring bias coaxial of closure pivot:**

This subclass is indented under subclass 172. Device wherein the closure and stile slide are urged together by a coil spring having the same longitudinal axis as the closure pivot.

**174 Edgewise retractable bearing acting between closure and portal frame:**

This subclass is indented under subclass 149. Device comprising a slide or guide strip acting between the edge surface of the closure and the adjacent portal frame surface to restrict the movement of the closure to a longitudinal reciprocation parallel to the surfaces; which said slide or guide is movable in a plane parallel to the plane of reciprocation to thereby permit movement of the closure about a pivot.

SEE OR SEARCH THIS CLASS, SUBCLASS:

172+, for a closure which is pivoted on a sliding stile, wherein the stile is laterally retractable to permit swinging of the closure.

194+, for a closure to frame guide strip which is otherwise moved or removed to permit rotation of the closure.

316+, for an operator for a movably mounted sealing, guiding or locking strip between a frame and a closure, e.g., to release the closure for swinging movement, and see the search notes thereto for the loci of other movable sealing, guiding or locking strips.

414+, for a biased bearing surface for a reciprocating closure wherein the biasing means permit lateral displacement of the bearing surface.

**175 Towards closure:**

This subclass is indented under subclass 174. Device wherein the guide strip retracts into or alongside the closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

185, for a longitudinal key strip between a closure and a sliding stile retractable into the closure to permit pivoting of the closure.

**176 Pivot mounted on sliding member; e.g., slide-stile:**

This subclass is indented under subclass 149. Device wherein the closure is connected by a pivot to a sliding member, e.g., stile which moves in a guideway on a portal frame member or equivalent support member.

SEE OR SEARCH THIS CLASS, SUBCLASS:

161, for an enclosed section which pivots on a slidably mounted surrounding marginal frame.

172+, for a sliding member between a closure and a portal frame.

**177 Vertical axis pivot:**

This subclass is indented under subclass 176. Device wherein the axis of the pivot is vertically oriented.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

162, for an enclosed section which swings on a vertically oriented axis relative to a sliding surrounding marginal frame.

**178 With free stile slide-portal latch:**

This subclass is indented under subclass 177. Device comprising a vertically guided member on the opposite side of the closure from the pivot (free side) and which is connectible to the closure for vertical reciprocation and disconnectable therefrom to permit swinging of the closure, and wherein means is provided between the guided member and the frame of the opening to restrain said member from vertical movement when said closure has been disconnected therefrom.

(1) Note. In counterbalanced windows a weight is often attached to the free stile as well as to the hinge stile and the lock prevents the free stile movement when the weight of the sash is disconnected, as in swinging movement.

**179 Displaceable stop strip:**

This subclass is indented under subclass 177. Device comprising a vertically extending guide mounted on the portal frame and confining the closure to a reciprocating path, and wherein the guide is movably or removably mounted to permit the closure to swing on its pivot.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

194+, for a closure guide strip which is moved or removed to permit an optional movement of the closure.

**180 Free stile slide-closure latch, closure carried:**

This subclass is indented under subclass 177. Device comprising a vertically guided member (stile) on the opposite side of the closure from the pivot, substantially coextensive in length with the side of the closure, and connectible to the closure for vertical reciprocation and dis-

connectible therefrom to permit swinging of the closure, with the connector being carried by the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

183+, for a key or latch which connects a closure to a stile slide.

**181 Vertical position holder actuated by pivoting closure:**

This subclass is indented under subclass 176. Device comprising a means to lock the sliding member against reciprocating up and down movement, which means is motivated by the pivoting action of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

172+, for a separable stile slide which is actuated laterally by vertical swinging of the closure.

**182 Diagonally opposed stop flanges on stile slide or closure:**

This subclass is indented under subclass 176. Device wherein the sliding member (stile) is substantially coextensive in length with the edge of the closure, and wherein the stile or closure includes movement limiting portions (stops) on or at an edge surface adjacent edge surface of the other, the portions being above and below the pivot and diagonally opposed relative to the edge surface.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

392+, for diagonally opposed stops or seals for a swinging closure mounted on opposing frame members.

**183 Key or latch between closure and stile slide:**

This subclass is indented under subclass 176. Device wherein the sliding member (stile) is substantially coextensive in length with the side of the closure pivoted thereto, and wherein a releasable means connects the adjacent side of the closure to the stile so that they move together, or is disconnected therefrom to permit the sash to pivot about its stile axis.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
180, for a latch which connects the free stile and a horizontally swinging closure.
- 184 Longitudinal key:**  
This subclass is indented under subclass 183. Device wherein the releasable means is an elongated member fitting into or against opposed parallel surfaces or grooves of the stile and closure.
- 185 Retractable edgewise towards closure:**  
This subclass is indented under subclass 184. Device wherein the key is movable in its plane toward the closure to be disengaged from the stile.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
172, for a vertically swinging closure supported on a laterally separable stile slide.
- 186 Cap-type latch:**  
This subclass is indented under subclass 183. Device wherein the key or latch is between the smallest transverse end surface of the stile, e.g., top end and the adjacent corner portion of the closure.
- 187 Link-brace between closure and stile slide:**  
This subclass is indented under subclass 176. Device wherein the sliding member (stile) is substantially coextensive in length with the edge of the closure, and wherein a link is pivoted to the stile and closure to limit the pivoting movement of the closure and act as a brace in the open position.
- 188 Separable hinge permits sliding of closure:**  
This subclass is indented under subclass 149. Device in which disconnectable hinge members are provided on both the closure and the portal frame which members are engageable to permit swinging of the closure and disengageable to permit reciprocation of the closure.
- 189 Retractable portion:**  
This subclass is indented under subclass 188. Device wherein a portion of the hinge is mounted to move to an inoperative position relative to the closure or portal frame to which it is attached and out of register with the remaining hinge portion.
- 190 Means adjusting closure vertically on vertical support pivot:**  
This subclass is indented under subclass 149. Device wherein the closure is mounted to swing horizontally about a vertically oriented pivot, and wherein means are provided to select desired positions of the closure in a vertical direction relative to the vertically oriented pivot.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
156, for a closure which translates on a pivoted arm and optionally adjusts vertically relative thereto.  
158+, for a closure movable vertically and swingable about a fixed vertically oriented rod.
- 191 Angularly adjusted about horizontal pivot:**  
This subclass is indented under subclass 190. Device wherein the closure can be tilted about a horizontally oriented axis to an inclined position.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
240+, for a closure which tilts about a horizontal oriented axis to impart a bias to the horizontally swinging movement of the closure, wherein the tilting movement precedes the swinging movement.  
396, for means to raise the front end of the closure to compensate for sag.
- 192 On alternative axes:**  
This subclass is indented under subclass 149. Device provided with two or more axes of turning, useable in turn.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
191, for a closure which swings about a vertical pivot and tilts to various positions of angular adjustment about a horizontal pivot.  
246+, for a swinging closure which turns about two or more axes in the opening or closing movement.

- 382, for a closure in which the position of the hinge mounting means is changed to reverse the direction of the swinging movement.
- 193 On opposite ends of closure:**  
This subclass is indented under subclass 192. Device wherein the two axes are at opposite ends of the closure.
- SEE OR SEARCH CLASS:  
105, Railway Rolling Stock, subclass 281 for a railway car dumping door with releasable hinges on opposite edges of the door.
- 194 Movable or removable guide:**  
This subclass is indented under subclass 149. Device wherein the closure is mounted on a guiding surface for reciprocating movement and wherein the surface is mounted on a support for movement or for ready disjuncture to permit swinging movement of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
174+, for a closure-to-frame bearing strip which is laterally retractable to permit swinging of the closure.  
316+, for an operator for a movably mounted sealing, guiding or locking strip between a frame and closure, e.g., to release the closure for swinging movement, and see the search notes thereto for the loci of other movable guiding strips.
- 195 Pivoted:**  
This subclass is indented under subclass 194. Device wherein the guiding surface is mounted on the support swinging movement.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
455, for a guideway movably mounted to permit closure removal.
- 196 Closure swings with guide:**  
This subclass is indented under subclass 195. Device wherein the closure is supported by and moves with the guide during the pivotal movement of the latter.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
164+, for double hung closures within a pivoted frame which carries the closures during its pivoting movement.
- 197 UP-AND-OVER TYPE; E.G., MOVES FROM VERTICAL TO WITHDRAWN HORIZONTAL OVERHEAD POSITION:**  
This subclass is indented under the class definition. Device in which a closure is mounted for movement upwardly from a vertical closed position to a horizontal or inclined elevated open position, and in which (1) the mounting means for the closure movement is out of the plane of the frame forming the opening, or (2) the movement is multidirectional, e.g., overhead doors known as the up-and-over type.
- (1) Note. See the search notes below for a reference to the definition of "multidirectional".
- (2) Note. A closure which merely pivots about an axis in the plane or on the surface of the closure will be found elsewhere (see search notes below). However, a closure mounted to swing on a bracket or link which is pivoted at the end remote from its connection to the closure and which moves in the manner defined above, is here, e.g., in subclasses 203+.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
126, for a folding closure which moves from a vertical to a horizontal overhead stacked position.  
208+, for a closure moving sidewardly from a vertical closed position to an open position by the combination movements there provided for. See subclass 208 for the definition of "multidirectional."  
381+, for a closure pivoted about an axis in or on the surface of the closure, and especially subclasses 388+ for a closure pivoted to opposing frame members, and see (2) Note above.

- SEE OR SEARCH CLASS:  
160, Flexible or Portable Closure, Partition, or Panel, subclasses 130+ for plural strip, slat or panel type closures which move from a vertical closed position to a withdrawn overhead horizontal position.
- 198 Independently movable closure sections:**  
This subclass is indented under subclass 197. Device provided with a plurality of closure sections, and wherein the movement of the sections are separate and distinct from each other.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
464, for a removable closure comprising a plurality of closure sections.
- 199 With operator:**  
This subclass is indented under subclass 197. Device provided with manipulatable mechanical means movable relative to the closure for imparting movement to it.
- SEE OR SEARCH CLASS:  
160, Flexible or Portable Closure, Partition, or Panel, subclasses 188+ for a closure of the plural strip, slat or panel type, provided with an operator.
- 200 And counterbalance:**  
This subclass is indented under subclass 199. Device provided with additional means acting against the force of gravity for balancing the closure in an adjusted position.
- 201 Upward sliding followed by distinct swinging:**  
This subclass is indented under subclass 197. Device wherein a final swinging movement towards the horizontal overhead position is separate from and sequential to an upward sliding movement.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
254+, for a closure other than the up-and-over type having an initial translation followed by a swinging movement.
- 202 Pivoted guide:**  
This subclass is indented under subclass 201. Device wherein the closure slides upwardly on a pivoted guide and then, together with the guide, swings to a horizontal overhead position.
- 203 On lever or link:**  
This subclass is indented under subclass 197. Device wherein the closure is mounted on a rigid pivoted arm.
- 204 Pivoted at closure:**  
This subclass is indented under subclass 203. Device wherein the closure is pivotally mounted on an arm for turning movement relative thereto with the distal end of the arm also being pivotally mounted.
- 205 Multiple links angularly related:**  
This subclass is indented under subclass 204. Device in which there are a plurality of the arms arranged in a nonparallel relationship.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
248+, for a closure mounted on a plurality of angular related links which effect multidirectional movement other than the up-and-over type.
- 206 Actuating spring codirectional with or acts on links:**  
This subclass is indented under subclass 204. Device provided with resilient means which assist in moving the closure and wherein said means extends in substantially the same directions as the arm or wherein the force of the spring is transmitted through the link to the closure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
205, for a spring acting co-directionally with or on one of a plurality of angularly related links.
- SEE OR SEARCH CLASS:  
160, Flexible or Portable Closure, Partition, or Panel, subclasses 191 and 192 for a spring operating means which moves a plural strip type panel to a horizontal overhead position.

**207 SUPERIMPOSED CLOSURES, INDEPENDENT EDGEWISE MOVEMENT TO SIDE OF OPENING:**

This subclass is indented under the class definition. Device provided with a plurality of closures for a single opening, arranged one above the other, and wherein each is movable in the direction of its length separately from the movement of the other closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 42, for independently movable closures which move to a horizontal overhead position.
- 125, for independently movable closures which move to a stacked position.
- 464, for removable, independently stacked closures.

**208 MOUNTED FOR MULTIDIRECTIONAL OR OBLIQUE MOVEMENT:**

This subclass is indented under the class definition. Device provided with means mounting the closure for movement along two or more distinct lines or planes or about two or more axes of rotation or a combination thereof, in a single opening and closing movement.

- (1) Note. Movement along an incline is considered a combination of motions in vertical and horizontal planes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 81.1, for interconnected louvers with multidirectional movement.
- 128+, for a closure having a multidirectional movement in moving from a colinear to an offset position with respect to another closure, and especially subclass 129 for such a closure having an additional multidirectional movement.
- 152+, for a closure with optional movement wherein one movement is multidirectional.
- 197+, for a closure which moves multidirectionally from a vertical to a withdrawn overhead position.

SEE OR SEARCH CLASS:

- 109, Safes, Bank Protection, or a Related Device, subclasses 69+ for bank protection closures with multidirectional movement.
- 296, Land Vehicles: Bodies and Tops, subclasses 210+ for a land vehicle having a roof and having an opening therein and a closure for said opening.

**209 Initial or terminal movement transverse to sliding movement edgewise of portal:**

This subclass is indented under subclass 208. Device wherein the closure moves first from or finally to the plane of the closure opening, which plane is parallel to the main back and forth sliding direction of the closure.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 128+, for a closure movable from a plane common to another closure to permit its translation.

**210 Common operator for both movements:**

This subclass is indented under subclass 209. Device provided with a single mechanical means movable relative to and acting to move the closure both transversely and translationally in its opening and closing movements.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 324+, for an operator for a movably mounted closure and see the search notes thereto for the loci of other closure operations.

SEE OR SEARCH CLASS:

- 212, Traversing Hoists, subclass 166 for a traversing hoist which raising a closure and shifts it laterally, and which is not permanently connected to a single door.
- 414, Material or Article Handling, subclass 684.3 for door removing apparatus which are not permanently connected to a single door, and which include a vertically swinging-door supporting member.

- 211 Transverse movement aligns closure for movement into housing:**  
This subclass is indented under subclass 209. Device provided with a pocket or receptacle formed in an adjacent framework and wherein the transverse movement positions the closure relative to the pocket for travel into said pocket.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
372+, for a reciprocating closure stored in a housing, and see the search notes thereto for the loci of other closures stored in a housing.
- 212 Transversely movable track:**  
This subclass is indented under subclass 209. Device provided with a track mounted for transverse movement adjacent the closure opening, and wherein the sliding closure is mounted on the track for transverse movement therewith and sliding movement therealong.
- 213 Skewed track:**  
This subclass is indented under subclass 209. Device provided with a track on which the closure is mounted for sliding movement and wherein the track has a curved or offset portion to move the closure transversely.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
128+, for a closure movable from a colinear to an offset position with respect to another closure by means of a skewed track.
- 214 Separate track section for rear of closure:**  
This subclass is indented under subclass 213. Device wherein an independent track or portion of track is provided adjacent the closed position of the far end of the closure, and wherein the far end of the closure is mounted to move on such independent track or portion of track.
- 215 Rear of closure moves transversely on crank arm:**  
This subclass is indented under subclass 213. Device wherein the near end of the closure moves transversely on the skewed track, and wherein the far end is mounted on a rigid arm having an offset extension, said extension being rotatable about an axis parallel to the offset to move the far end of the closure transversely.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
218+, for a closure, both ends of which move transversely on a crank arm.
- 216 Moves transversely on link:**  
This subclass is indented under subclass 209. Device provided with a pivoted arm on which the closure is also pivotally mounted for transverse movement.
- 217 Closure pivoted to tilting link-carriage:**  
This subclass is indented under subclass 216. Device wherein the closure is pivotally mounted to a link attached to or having a carriage portion swingably and slidably engaging its track.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
222, for a closure mounted on a tilting carriage.
- 218 Crank arm-type link:**  
This subclass is indented under subclass 216. Device wherein the pivoted arm is a crank, i.e., has an extension which is offset therefrom, whereby rotation of said arm with said extension moves the closure transversely.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
215, for a closure having one end movable transversely on a skewed track and the other end movable transversely on a crank arm.
- 219 Paired sets of crank arms:**  
This subclass is indented under subclass 218. Device provided with two sets of the crank arms, each set comprising two corresponding crank arms.
- 220 Operator interconnected with sets:**  
This subclass is indented under subclass 219. Device provided with an operator interconnecting the sets of crank arms, so that manipulation of the operator actuates both sets of crank arms.

**221 Closure carried by track-mounted carriage:**  
This subclass is indented under subclass 209. Device provided with a track adjacent the closure opening and a carriage member reciprocable on the track, and wherein the closure is supported by said member for reciprocation therewith.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 212, for a closure carried carriage mounted on a movable track.
- 213+, for a closure carried carriage mounted on a skewed track.
- 216+, for a closure carried carriage in which a link or crank is the connection between the carriage and the closure.

**222 Tilttable carriage:**  
This subclass is indented under subclass 221. Device wherein the carriage swingably engages the track, and the transverse movement is effected by such swinging.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 217, for a closure pivoted to a tilting carriage.

**223 Closure hinged to carriage:**  
This subclass is indented under subclass 221. Device wherein the closure is pivoted to the carriage and the transverse movement is effected by such pivot.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 176+, for a closure mounted on a sliding pivot mount to optionally open by a sliding or a swinging movement.
- 216+, for a closure hinged to a carriage by means of a link.

**224 Inclined transverse movement:**  
This subclass is indented under subclass 221. Device wherein a guide is provided adjacent the closure opening which is inclined and normal thereto, and wherein the closure or the carriage is mounted to move on said guide to effect both a transverse and an up or down movement to close the opening.

**225 Terminal cam:**  
This subclass is indented under subclass 221. Device wherein a camming surface is positioned in the path of the closure adjacent its final position, to be engaged thereby to impart a terminal movement to it.

**226 In plane of closure; e.g., oblique:**  
This subclass is indented under subclass 208. Device wherein the multidirectional movement of the closure lies within the plane formed by the length and width of the closure, e.g., moves in an inclined direction which is a resultant of motion in a horizontal and vertical plane.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 41, for an arcuate closure in an arcuate opening which moves in an arcuate path.

**227 Permits movement from housing to raised closed position:**  
This subclass is indented under subclass 226. Device provided with a housing, and wherein the multidirectional movement of the closure enables the closure to be elevated from the housing to a passage blocking position.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 146, for a closure which is adjusted in a raised position to open and close vertical ventilating opening.
- 372+, for a reciprocating closure stored in a housing, and see the search notes thereto for the loci of other closures stored in a housing.

**228 Gravitates on tilted track:**  
This subclass is indented under subclass 226. Device provided with an inclined guideway on either the closure or its support, and wherein movement of the closure is effected by the force of gravity acting upon the guideway and a mating relatively sliding or rolling surface on the other.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 237+, for a curved track and a closure positioned to slide along the track under the influence of gravity.

- 229 Oscillating track:**  
This subclass is indented under subclass 228. Device wherein the track is pivoted to permit reversal of the direction of inclination, so that the closure may gravitate in opposite directions.
- SEE OR SEARCH CLASS:  
104, Railways, subclass 164 for a railway propulsion system utilizing a tilting track.
- 230 Sectional or nonlinear:**  
This subclass is indented under subclass 229. Device wherein the track comprises two or more guideways, or deviates from a straight line.
- 231 Pendant closure:**  
This subclass is indented under subclass 228. Device wherein the closure hangs from an inclined overhead guideway.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
409+, for a closure which reciprocates on an overhead guideway.
- 232 Swings on coplanar pivotal link arm:**  
This subclass is indented under subclass 226. Device wherein the closure is pivoted to a rigid pivoted arm which lies or acts in the plane of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
153+, for a closure with optional movements in which one of the movements is on a link.  
204+, for a closure which moves from a vertical to a withdrawn overhead position on a link.  
246+, for a closure mounted for multidirectional movement on a link.  
405, for a closure mounted for reciprocation on a link.
- 233 Longitudinal-spaced parallel links:**  
This subclass is indented under subclass 232. Device wherein a plurality of the arms, which are parallel and to each of which the closure is pivotally connected at separate points along the length of the closure.
- 234 Closure actuated vertically to retard horizontal travel:**  
This subclass is indented under subclass 226. Device wherein the closure is mounted for horizontal reciprocation and additionally for movement vertically, the latter movement positioning the closure to resist the motion in a horizontal direction, and wherein said latter movement is effected by means of an operator.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
255+, for a closure actuated vertically to permit horizontal swinging.  
276+, for a starter type closure operator.
- 235 By track roller-closure displacement:**  
This subclass is indented under subclass 234. Device wherein the closure is reciprocable on a track, and wherein track engaging roller means are provided for supporting the closure in its horizontal reciprocation movement, and wherein the antifriction means and closure are displaced relative to each other by the operator to free the closure for horizontal travel.
- SEE OR SEARCH CLASS:  
16, Miscellaneous Hardware, subclass 99 for means for releasing and elevating a closure or antifriction supporting frames.
- 236 One direction imparts gravitational bias to swinging closure; e.g., rising hinge:**  
This subclass is indented under subclass 208. Device wherein the closure is mounted to turn from an initial position about a pivot, and wherein the closure is additionally moved in a direction against the force of gravity, so that when released, the closure moves about the pivot under the influence of gravity.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
228+, for a closure biased for gravitational movement along an inclined track.
- SEE OR SEARCH CLASS:  
16, Miscellaneous Hardware, subclass 309 for a gravity actuated hinge, per se.

**237 Biased by inclined cam and descending slide or roller:**

This subclass is indented under subclass 236. Device wherein the additional movement is effected by an inclined surface on either the closure or its support and of a relatively sliding or rolling surface of either on the other.

SEE OR SEARCH CLASS:

16, Miscellaneous Hardware, subclasses 312+ for a hinge having cooperating cam surfaces to raise and bias a closure to return position.

**238 Shiftable cam:**

This subclass is indented under subclass 237. Device wherein the inclined surface is movable to change its inclination so that the sliding or rolling surfaces are urged in opposite directions.

**239 Mating inclined cam and slide surfaces:**

This subclass is indented under subclass 237. Device wherein the cam and sliding surface have interengaging inclined surfaces.

**240 Shiftable pivot:**

This subclass is indented under subclass 236. Device provided with means to move or permit movement of one of the pivots of the closure relative to that of the axis of the other pivot to thereby change the direction of the turning axis of the closure, e.g., a closure is tipped about a corner while turning on an edge.

**241 On crank arm:**

This subclass is indented under subclass 240. Device provided with a shaft turnable about its longitudinal axis and having a portion spaced laterally from said longitudinal axis, and wherein the movable pivot of the closure is carried by the laterally spaced portion.

**242 Mounted on eccentric or lever:**

This subclass is indented under subclass 240. Device wherein the movable pivot of the closure is carried by a lever or disc which pivots about an axis different from that of the closure.

**243 Pivot on hinge post cap lever:**

This subclass is indented under subclass 242. Device wherein the lever is pivoted to the top of the post which mounts the closure for move-

ment and extends outwardly therefrom to carry the upper hinge of the closure.

**244 Pivot on vertically oscillating lever:**

This subclass is indented under subclass 242. Device wherein the lever which carries the closure pivot swings about a horizontal axis.

**245 Pivot pin shifted in slot:**

This subclass is indented under subclass 240. Device wherein the movable pivot of the closure includes a pivot shaft and an elongated opening in the pivot mounting means receives the shaft and limits its displacement.

**246 Swings on plural axes; e.g., pivotal link arms:**

This subclass is indented under subclass 208. Device wherein there is means pivoting the closure to swing about each of two different axes.

SEE OR SEARCH THIS CLASS, SUBCLASS:

153+, for a closure which swings on a pivoted arm and has an additional alternate opening and closing movement.

192+, for a closure which optionally swings on alternate axes in two or more opening and closing movements.

204+, for a closure which moves from a vertical to a withdrawn overhead position on a pivoted arm.

216+, for a closure having a translational movement and an initial or terminal movement on a pivoted arm to one side of the plane of translation.

SEE OR SEARCH CLASS:

312, Supports: Cabinet Structure, subclass 325 for a cabinet component which pivots on a pivoted arm.

**247 Axes normal to each other:**

This subclass is indented under subclass 246. Device wherein the axes are at right angles to each other.

**248 Multiple links angularly related:**

This subclass is indented under subclass 246. Device provided with a plurality of nonparallel pivoted arms to each of which the closure is pivotally connected.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 205, for a closure which moves from a vertical to a withdrawn horizontal overhead position on a plurality of angular related pivoted arms.
- 249 One link jointed:**  
 This subclass is indented under subclass 248. Device wherein one of the pivoted arms comprises two or more sections pivoted together.
- 250 With additional slide guiding closure movement:**  
 This subclass is indented under subclass 246. Device wherein the closure is additionally mounted to swing on means which translates along a guideway.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 176+, for a closure which optionally swings and slides on a sliding pivot mount.  
 215, for a closure pivot axis which moves along a guide or slot.
- 251 Friction slide mount; e.g., biased:**  
 This subclass is indented under subclass 250. Device wherein the closure guideway is defined as bearing or rubbing against a surface with sufficient force to retard movement of the closure, e.g., it is resiliently urged against said surface.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 414+, for a reciprocating closure with a biased bearing surface.
- 252 Guide on portal frame:**  
 This subclass is indented under subclass 250. Device wherein the closure opening is formed by surrounding frame members and wherein the closure guideway is mounted on the frame.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 81, for a similar structure which mounts interconnected louvers for concurrent multidirectional movement.
- 253 Link at closure balance point:**  
 This subclass is indented under subclass 246. Device wherein the closure pivoting means comprises a member or assemblage of members pivoted at one end to a support, and the other end pivotally supports and carries the closure adjacent its center of mass.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 154, for a closure with optional movement wherein one of said movements is on a link at the balance point of the closure.
- 254 Sequential translation and swinging:**  
 This subclass is indented under subclass 208. Device wherein the closure movements occur in turn, and wherein a translation precedes or follows a pivoting about an axis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 201+, for a closure movable to an overhead position by an upward sliding movement followed by a distinct swinging movement.
- SEE OR SEARCH CLASS:  
 312, Supports: Cabinet Structure, subclasses 322+ for a cabinet component with pivotal and rectilinear sequential movement.
- 255 Operated vertically to permit horizontal swinging:**  
 This subclass is indented under subclass 254. Device provided with a manipulatable mechanical means for imparting vertically translation to the closure to permit pivoting about a vertical axis.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 190, for a closure which is adjusted vertically on a vertical supporting pivot to permit passage of small objects.  
 234, for a closure which is actuated vertically to retard horizontal travel.  
 276+, for a starter type closure operator.

**256 Camming lever:**

This subclass is indented under subclass 255. Device wherein the motion imparting means is a rigid arm which is pivoted to either the closure or its frame and directly engages the other with a sliding action to cause relative movement of the closure to its frame.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

278, for a starter type operator which includes a single camming lever.

**257 Translation shifts pivot axis:**

This subclass is indented under subclass 254. Device wherein the translation of the closure repositions the pivot axis to permit swinging about said axis.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

260, for a closure in which its pivot axis moves along a guide or slot.

**258 Translates on pivoted axis:**

This subclass is indented under subclass 254. Device provided with a support mounted for pivoting about an axis and wherein the closure is mounted on the support for translation relative thereto.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

156, for a closure having this movement and an additional alternate movement.

**259 Supporting frame extends laterally of its pivot:**

This subclass is indented under subclass 258. Device wherein the support includes a member projecting beyond the pivot axis in the plane of the closure's translating movement.

**260 Pivot axis moves along guide:**

This subclass is indented under subclass 208. Device provided with a trackway, e.g., a slot, along which the pivot axis of the closure is guided.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

250+, for a closure which swings on a link and slides along a guide.

257, for a closure in which its initial translation shifts its pivot axis to permit swinging about said axis.

**261 Swings about seat on portal frame; e.g., indeterminate axis:**

This subclass is indented under subclass 208. Device wherein the closure tilts on a portion of a frame on which it rests and is free to move away from or translate along said portion.

**262 VEHICLE ACTUATED ROLLER OR CARRIAGE OR CARRIED COOPERANT:**

This subclass is indented under the class definition. Device comprising force input means for imparting movement to the closure which is engaged by a vehicle passage user and includes (1) a cylindrical body movable about its longitudinal axis by traction wheels of the vehicle, or (2) a member movable along a guideway or track, or (3) an adjunct, carried by the vehicle for specific cooperation with an element of the operating mechanism.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

263+, for a treadle or lever actuator operable by the weight of the user.

SEE OR SEARCH CLASS:

246, Railway Switches and Signals, subclasses 270+ for signals, switches, gates and other movable elements of that class actuated by the energy of the moving vehicle, either by direct mechanical connection or indirectly by springs, clockworks, etc., released by track-trips.

**263 TREADLE OR IMPACT INITIATED OPERATOR:**

This subclass is indented under the class definition. Device which includes manipulatable mechanical means movable relative to and imparting movement to the closure and means to effect its operation by a weight or impact, as from a foot or vehicle.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

105, for a treadle or treadle bar interconnector for closures interconnected for concurrent swinging movement.

- 132+, for a flush type closure operated by a pedal or treadle.
- SEE OR SEARCH CLASS:
- 4, Baths, Closets, Sinks, and Spittoons, subclasses 246.1+ for a pedal operated seat or cover and subclass 272 for a pedal operated spittoon cover.
- 110, Furnaces, subclass 178 for a pedal operated furnace door.
- 116, Signals and Indicators, subclass 98 for a treadle operated burglar alarm.
- 160, Flexible or Portable Closure, Partition, or Panel, subclass 4 for similar devices for the type of closures found in that class.
- 222, Dispensing, subclass 179 for a pedal actuator for a dispensing device.
- 264 Switch in approach to closure:**  
This subclass is indented under subclass 263. Device wherein the weight or impact operated means is in the path of travel of the closure user and is connected to close circuit-controlling means.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 334, for a motor driven coaxial operator for a movable closure and see the search notes thereto for the loci of other motor driven operators.
- 265 Fluid controller in approach to closure:**  
This subclass is indented under subclass 263. Device wherein the weight or impact operated means is in the path of travel of the closure and is connected to a fluid controlling means, e.g., a valve or pump controller.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 334, for a motor driven coaxial operator for a movable closure and see the search notes thereto for the loci of other motor driven operators.
- 266 With alternative hand operator:**  
This subclass is indented under subclass 263. Device comprising an additional hand manipulated means connected to the closure or the weight or impact actuated means usable instead at the latter to effect operation of the closure.
- 267 Two-stage operator:**  
This subclass is indented under subclass 263. Device wherein the weight or impact actuated means is depressed twice, as by both the front and rear wheels of a vehicle, to effect a single opening or closing of the closure, and wherein one depression of the pedal (1) sets the drive mechanism so that another depression of the pedal will move the closure or (2) starts the opening movement of the closure with the second depression of the pedal completing the closure movement.
- 268 Sequential initiators for latch release and operator:**  
This subclass is indented under subclass 263. Device comprising two weight or impact actuated means engageable in turn to effect a movement of the closure, wherein one actuates a latch release and the other effects the closure movement.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 279+, for an operator interrelated with a closure latch release.
- 269 Spaced open and close initiators on opposite sides of closure:**  
This subclass is indented under subclass 263. Device wherein at least two weight or impact actuated means are provided in the path of movement of the closure user and located on opposite sides of the closure, which means are connected to operators performing different functions and engaged in succession, e.g., to open and then close the closure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 327+, for a closure operator actuated from opposite approaches and see the search notes thereto for the loci of other operators actuated from opposite approaches.
- 270 Plural interconnected paired initiators:**  
This subclass is indented under subclass 269. Device wherein a pair of said impact initiated means are located on each side of the closure, and wherein each of the pair on one side is connected with a respective one on the other side.

**271 Releases latch from either side:**

This subclass is indented under subclass 269. Device is also provided with a holding means which is disengaged by the weight or impact actuated means from either side of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

272, for a latch release interrelated with a pedal or treadle actuated operator.

282+, for an actuator which is manually grasped on either side of the closure to release a latch and move the closure.

**272 Releases latch:**

This subclass is indented under subclass 263. Device wherein the weight or impact actuated means disengages a holding means.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

271, for a weight or impact actuated latch release and closure operator actuated from either side of the closure.

279+, for an operator interrelated with a latch release.

364, for a latch release actuated by an impact or blow.

**273 Load maintained, self-returning:**

This subclass is indented under subclass 263. Device wherein the closure is opened and retained in open position by the weight of the closure user upon a treadle and wherein means are provided to close the closure when the weight of the user is removed.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

106, for a similar treadle operator which actuates interconnected closures.

386+, for a biasing means for a closure mounted for swinging movement and see the search notes hereto for loci of other closure biasing means.

**274 Spring return:**

This subclass is indented under subclass 273. Device wherein a resilient means closes the closure.

**275 CLOSURE MOVED BY STEP-BY-STEP OPERATOR:**

This subclass is indented under the class definition. Device provided with an operator having kinematical ratios such that a full movement of the input member is incapable of moving the closure through its full range of motion, so that relatively short input strokes impart serial movements to the closure to move it from one extreme position to the other, e.g., closures such as freight car doors movable step-by-step by a pry bar or crow bar.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

267, for a pedal or treadle operator requiring two actuations to effect a single complete movement of the closure.

**276 STARTER-TYPE OPERATOR; E.G., SEAL BREAKER:**

This subclass is indented under the class definition. Device provided with an operator which engages to impart an initial opening movement to the closure and then disengages to permit the opening to be concluded manually or by another operator.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

32, for a motor drive for a closure which is energized by initial manual movement of the closure.

139, for a closure optionally moved manually or by a motor.

209, for an operator which imparts initial movement transverse to the plane of translation of a closure.

234, for an operator which initially moves the closure vertically to permit horizontal travel.

255, for an operator which first moves a closure vertically to permit horizontal swinging.

275, for an operator requiring a plurality of actuations to effect closure movements.

SEE OR SEARCH CLASS:

292, Closure Fasteners, appropriate subclasses for devices for starting a closure open, or drawing it from a substantially closed to a fully closed

- position, wherein such operation is accomplished by cooperating surfaces on the latch bolts and keepers, which effect this operation during movement of the bolts into or out of latching condition relative to the keepers.
- 454, Ventilation, subclass 89 for a starter type operator for an ice-bunker closure, wherein the operator has means to prop the closure in ventilating position.
- 277 Lever actuator engages strap-fastener or longitudinally shiftable bar:**  
This subclass is indented under subclass 276. Device provided with a lever which engages either a fastening strap or a bar which is moved in the direction of its length, and wherein a force applied to the lever is transmitted through the strap or bar to impart movement to the closure.
- 278 Handle-camming lever:**  
This subclass is indented under subclass 276. Device comprising a lever having a handle at one end which is pivoted to either the closure or its frame and directly engages the other with a sliding action to cause relative movement of the closure and its frame.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
256, for a camming lever which actuates a closure vertically.
- 279 OPERATOR INTERRELATED WITH CLOSURE LATCH RELEASE:**  
This subclass is indented under the class definition. Device provided with a mechanical operating means movable relative to and imparting movement to a closure and a separate position holder between the closure and its frame or support wherein the operating means is interconnected with a means to effect a disengagement of the position holder so that it effects both disengagement of the position holder and movement of the closure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
272, for a latch release interrelated with a pedal, treadle or impact actuator.  
276+, for a closure latch release interrelated with a starter type operator.
- 319, for a latch interrelated with a sealing, guiding or locking strip operator.
- 324+, for an operator for a movably mounted closure wherein the latch components are part of the drive train.
- 363, for a biased closure having a bump actuated latch release not interconnected with the biasing means.
- 394+, for a swinging closure with a latch or lock.
- 449+, for a reciprocating closure for a latch or lock.
- 280 Motor driven:**  
This subclass is indented under subclass 279. Device wherein the position holding means is interrelated with the actuation of a closure operating powered means other than a mere spring.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
334, for a motor driven coaxial operator and see the search notes thereto for the loci of other motor driven closures.
- 281 Common actuator, different movements to unlatch and move closure:**  
This subclass is indented under subclass 279. Device wherein a single mechanical motion imparting means effects a closure movement by one type or direction of manipulation; (e.g., reciprocation) and a movement of position holding means by another kind or direction of manipulation; e.g., rotation.
- 282 Actuator or opposite approaches:**  
This subclass is indented under subclass 279. Device including force input means imparting movement to the closure and release of the position holding means, which means are positioned on opposite sides of the closure in the approaches thereto.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
236+, for a closure in which a movement against the force of gravity imparts bias to a swinging movement, and wherein said movements are actuated from opposite approaches.

- 327+, for an operator for a movably mounted closure actuated from opposite approaches.
- 283 Latch for diverse positions of closure, separate trains:**  
This subclass is indented under subclass 282. Device wherein a means holding a position of the closure is effected at different positions of the closure and different closure drive trains release the holding means at the several positions.
- 284 Latch train and closure operator train from diverse points on actuator:**  
This subclass is indented under subclass 282. Device provided with two separate systems of motion transmission, wherein one system releases the position holding means and the other moves the means imparting movement to the closure with each system being connected at spaced points to common actuating means extending to opposite sides of the closure approaches.
- 285 Lever interconnector, separate trains to latch and closure mover:**  
This subclass is indented under subclass 282. Device provided with a rigid pivoted arm which is actuated by the closure movement imparting means and wherein two separate systems of motion transmission, one moving the position holding means and the other the closure, are connected to the arm.
- 286 Force applied at closure pivot releases latch:**  
This subclass is indented under subclass 282. Device wherein the input means applies its force to a pivoted edge of the closure or to the pivot itself, and wherein a connection is made between the release of the position holding means and the force input means so that said force will effect a rotation of the closure edge on its pivots and release the latch.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
333+, for an operator acting coaxially of a closure pivot.
- 287 Geared:**  
This subclass is indented under subclass 286. Device wherein the means applying force to the closure includes a gear which is mounted on the hinge stile or is coaxial with the closure pivot.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
335, for an operator which includes a coaxial gear.
- 288 Sheaved:**  
This subclass is indented under subclass 286. Device wherein the means applying force to the closure includes a cable, pulley or drum which is mounted on the hinge stile or is coaxial with the closure pivot.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
289, for an endless or looped cable operator, and see the search notes thereto for the loci of other cable operators actuated from opposite approaches.
- 289 Closure or latch interposed in endless or looped cable:**  
This subclass is indented under subclass 282. Device wherein the operator includes a closed loop flexible member or a flexible member looped around a pulley with the free ends extending towards opposite ends of the closure, and wherein the latch or closure forms a circuit with the member.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
288, for a pivot applied cable input to release the closure latch and move the closure.  
290, for a branched cable lost motion operator interrelated with a latch release.  
297, for a cable operator interrelated with a latch release in which the opening thrust includes a closure mounted guide.  
332, for a cable operator for a movably mounted closure actuated from opposite approaches.
- 290 Lost motion branched cable:**  
This subclass is indented under subclass 282. Device wherein flaccid members such as ropes or cables are connected to the latch and closure and to each other, and wherein one cable has a slack portion to permit the other branch to be first actuated.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 289, for an endless or looped cable operator and see the search notes thereto for the loci of other cable operators actuated from opposite approaches.
- 291 Lost motion pin or lever and slot:**  
 This subclass is indented under subclass 282. Device wherein a lost motion joint comprising a projection on one member or a lever is movable in an elongated opening in another and imparts an initial movement to the latch release prior to movement of the closure.
- 292 Lost motion cam drive:**  
 This subclass is indented under subclass 282. Device wherein motion imparting means slides relative to an element of the latch release while forcing it in another direction there being an element of the means which permits movement of the latch release prior to the movement of the closure.
- 293 Closure moving force applied through latch releaser:**  
 This subclass is indented under subclass 282. Device wherein the latch or its releaser is fastened to the closure, and wherein the closure moving force is applied to the latch or its releaser to first disengage the latch from its keeper, and then by continued application of force to the latch or its releaser, effects movement of the closure.
- 294 Duplicate links release common latch:**  
 This subclass is indented under subclass 293. Device wherein two similar arms with each being pivotally connected to a separate actuator but being pivotally connected to the same latch.
- 295 Crank link-type interconnector:**  
 This subclass is indented under subclass 293. Device wherein the operator includes a rigid member having a central shaft portion turnable about its longitudinal axis and pivot means at the ends of and spaced outwardly on opposite sides of the shaft portion with the pivot means being connected respectively to the actuator and the latch.
- 296 Bell crank-type interconnector:**  
 This subclass is indented under subclass 293. Device wherein the operator includes a member having arms fixed at an angle with a pivot at their intersection and pivot means at their ends respectively connected to the actuator and latch release.
- 297 Latch train includes closure mounted cable guide:**  
 This subclass is indented under subclass 293. Device wherein the latch releaser includes a cable trained over a cable guiding element, which element is supported by the closure, and wherein the runs of the cable to and from the guide are at an angle to each other, so that part of the closure moving force is derived from the guide.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 289, for an endless or looped cable operator, and see the search notes thereto for the loci of other cable operators actuated from opposite approaches.
- 298 Link system interconnector:**  
 This subclass is indented under subclass 293. Device including a series of links pivoted to each other which are connected at one end of the series to means imparting movement to the closure and at its opposite end to the latch releaser.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 329+, for an operator for a movably mounted closure which includes pivoted levers.
- 299 Allochiral actuators to common latch release:**  
 This subclass is indented under subclass 293. Device wherein are provided two mirror image closure actuators each on an opposite side thereof, and wherein each is connected to the latch releaser by a common drive.
- 300 Common input, diverse trains to latch and closure mover:**  
 This subclass is indented under subclass 279. Device comprising a single manipulatable element connected to move a juncture common to

- two separate systems of motion transmission, wherein one system actuates the latch and the other moves the closure, and wherein the common juncture is located at a point remote from the connection of the closure moving system to the closure.
- 301 One direction pull cable-type:**  
This subclass is indented under subclass 279. Device wherein the operator includes a flexible chain, rope or the like which is grasped by hand and pulled to move the closure in one direction and to effect disengagement of the latch, and wherein the closure movement in the other direction is obtained by means other than the pull cable, e.g., a spring.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
347, for a one direction pull cable operator for a movably mounted closure.
- 302 Actuator at remote station:**  
This subclass is indented under subclass 279. Device wherein the input means to effect movement of the closure and disengagement of the latch is located at a place removed from the closure, for use by a nonuser of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
357, for another remote actuator for a movably mounted closure.
- 303 CLOSURE MOVEMENT ACTUATED RETRACTABLE SEALING, GUIDING OR LOCKING STRIP:**  
This subclass is indented under the class definition. Device provided with an elongated strip mounted for movement and spanning the space between the closure and frame so as to (1) preclude the passage of fluid therebetween or (2) to aid or (3) prevent their relative movement, and further provided with means to impart movement to the plate, responsive to movement of the closure, to or from a locking, guiding or sealing position.
- (1) Note. Mere deflection or deformation of the strip as it engages on opposed surface has not been considered an actuation for this and the indented subclasses; however, if the strip engages a surface other than the sealing surface to move the strip into contact with its sealing surface, it has been so considered.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
316+, for an operator for a movably mounted sealing, guiding or locking strip not retracted by closure movement and see the search notes thereto for the loci of other such strips.
- 304 Strip mounted on sill:**  
This subclass is indented under subclass 303. Device wherein the strip is mounted for movement on a sill, i.e., a member positioned beneath the movable closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
467+, for a threshold, per se, and particularly subclasses 469+ for a threshold having an attached seal.
- 305 Interengages strip on closure:**  
This subclass is indented under subclass 304. Device provided with an additional strip mounted on the closure for mating engagement with the strip on the sill.
- 306 Strip movement in plane of closure:**  
This subclass is indented under subclass 303. Device wherein the movement of the strip lies in the plane delineated by the length and width of the closure or in a plane parallel and adjacent thereto.
- 307 Horizontally reciprocating plunger actuator:**  
This subclass is indented under subclass 306. Device wherein the means imparting motion to the strip includes a horizontally sliding rod or bar which is connected to the strip and which has a strip moving portion extending outwardly from the closure to abut against an adjacent stationary member.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
310, for a plunger actuator for a pivotally mounted strip resiliently biased to an inoperative position.

- 308 Lever interconnects or cams strip:**  
This subclass is indented under subclass 307. Device including a pivoted elongated rigid arm joining the plunger to the strip.
- 309 Oblique movement:**  
This subclass is indented under subclass 306. Device wherein the strip has movement combining a vertical and horizontal displacement.
- 310 Resilient means swings strip to retracted position:**  
This subclass is indented under subclass 303. Device provided with a spring or elastic member for urging the strip about an axis to an inoperative or nonuse position.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
306+, for a resilient means biasing a strip having movement in the plane of the closure to an inoperative position.
- 311 Offset or lever actuator, axis parallel to strip axis:**  
This subclass is indented under subclass 310. Device wherein the actuating means includes (1) an extension or projection extending to one side of the strip rotatable with the strip about the strip axis, or (2) a lever whose pivot axis is oriented in the direction of the axis of the strip.
- 312 Spring coaxial or strip axis:**  
This subclass is indented under subclass 311. Device wherein the resilient means includes a spring which is mounted on and turns about the strip axis.
- 313 Deflector in path of strip:**  
This subclass is indented under subclass 310. Device provided with a cam or strike member arranged in the way of movement of the strip to force the strip into its operative sealing position.
- (1) Note. A mere contact area mounted on the jamb, to be engaged by a portion of the closure in its closed position which may incidentally or inherently deflect the strip has not been considered as a deflector, and will be found in other subclasses, e.g., subclass 310.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
311+, for a deflector in the path of an offset or lever actuator on the strip, which rotates about an axis parallel to that of the strip.
- 314 Jamb mounted:**  
This subclass is indented under subclass 313. Device wherein the deflector is mounted on the side frame member of the opening.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
311+, for a jamb cam in the path of an offset or lever actuator on the strip, which rotates about an axis parallel to that of the strip.
- 315 Weight or gravity biased to retracted position:**  
This subclass is indented under subclass 303. Device wherein the strip is acted upon by the force of gravity or a weight to urge it to its inoperative or nonuse position.
- 316 OPERATOR FOR RETRACTABLE SEALING, GUIDING OR LOCKING STRIP:**  
This subclass is indented under the class definition. Device provided with an elongated strip mounted for movement and spanning the space between the closure and frame so as to (1) preclude the passage of fluid therebetween, or (2) to aid or (3) prevent their relative movement, and further provided with a manipulatable mechanical means to impart movement to the strip to or from a locking, sealing or guiding position.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
172+, for a closure carrying an edge nested stile slide which is laterally separable therefrom to permit swinging of the closure.  
174+, for a guide strip between a closure and its frame permitting sliding movement of a closure and laterally retractable to permit swinging of the closure with respect to its frame.  
179, for a stop strip, displaceable to permit movement of a sliding pivot mounted closure about a vertical pivot axis.

- 185, for a longitudinal key between a closure and a stile, laterally retractable into the closure.
- 194+, for an optionally moved closure, one of the movements being permitted by a movable or removable guide.
- 303+, for a sealing strip actuated by movement of the closure.
- 414+, for a reciprocating closure having a distinct biasing means acting on the closure bearing surface, and particularly subclasses 417+ for a means to adjust or retract the bias.
- 455, for a reciprocating closure having a movably mounted guideway to permit closure removal.
- 466, for a sealing or binding strip which is displaceable to permit the removal of the closure.
- 472+, for a sealing strip carried by a closure to seal the closure-frame gap, reinforce the closure panel, and limit the movement of the closure.
- 475+, for a closure mounted seal or striker gasket.
- 317 Opposed strips actuated concurrently:**  
This subclass is indented under subclass 316. Device provided with strips adjacent opposite side edge faces of the closure, i.e., at the ends of the closure and further provided with means interconnecting said strips to a common mechanical means imparting movement to them.
- 318 With interconnected strip on adjacent side:**  
This subclass is indented under subclass 317. Device provided with an additional strip at a side edge face of the closure which strip extends between the opposite side edge faces and is further provided with means joining said additional strip to the common operator.
- 319 Interrelated with closure latch:**  
This subclass is indented under subclass 316. Device provided with a separate position holder acting to hold the closure relative to its frame, and wherein the means imparting movement to the strip is joined to a means to release the position holder, i.e., the same operator effects movement of both the strip and the position holder.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
279+, for a closure moving operator interrelated with a closure latch release.
- 320 Rotating shaft normal to plane or strip movement:**  
This subclass is indented under subclass 316. Device wherein the means imparting movement to the strip includes a rod or bar mounted for turning about an axis extending at right angles to the plane of movement of the strip.
- 321 Includes lever:**  
This subclass is indented under subclass 316. Device wherein the means imparting movement to the strip includes a rigid pivoted arm.
- 322 WITH SAFETY BRAKE OR CATCH:**  
This subclass is indented under the class definition. Device comprising a closure supported for movement and provided with a position holder which is rendered operative by breakage or failure of the closure supporting means to prevent falling of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
279+, for an operator and a latch release interrelated to the operator, so that actuation effects both a disengagement of the latch and a movement of the closure.  
449+, for a latch or locking means for a reciprocating closure.
- 323 CLOSURE GUIDED FROM HOUSING BY RETRACTABLE SUPPORT:**  
This subclass is indented under the class definition. Device provided with a housing for receiving a closure, which housing is formed in an adjacent framework and further provided with a closure guiding support which is mounted to move from a withdrawn inoperative position to an extended guiding position beyond the housing.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
372+, for a reciprocating closure stored in a housing, and see the search notes thereto for the loci of other closures stored in a housing.

## SEE OR SEARCH CLASS:

296, Land Vehicles: Bodies and Tops, subclass 150 for a vehicle having a displaceable pillar intermediate the closures in their raised, closed position.

### 324 WITH OPERATOR FOR MOVABLY MOUNTED CLOSURE:

This subclass is indented under the class definition. Device provided with a manipulatable mechanical means which is movable relative to and actuates the closure, which means is other than a mere spring which stores energy by movement of the closure.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

1+, for a thermally responsive actuator.  
 11, for a float controlled operator for a flood gate.  
 74.1+, for an operator for a louvered closure.  
 95+, for an operator for interconnected closures in spaced openings along a barrier.  
 132, for an operator for a closure which opens to be flush with the ground.  
 137, for a combined fluid operator and closure check.  
 140, for a closure optionally moved by motor or manual operator.  
 199+, for an operator for a closure which moved from a vertical to a withdrawn horizontal overhead.  
 210, for a common operator for transversely and translationally moving a closure.  
 263+, for a pedal, treadle or impact actuated operator.  
 275, for an operator with step by step actuation.  
 276+, for a starter type operator.

## SEE OR SEARCH CLASS:

110, Furnaces, subclasses 176+ for an operator for a furnace door.  
 126, Stoves and Furnaces, subclass 192 for an operator for a stove door or window.  
 187, Elevator, Industrial Lift Truck, or Stationary Lift for Vehicle, subclasses 315+ for a motor, or motor driven linkage, in combination with other elevator structure for shifting a barrier

which regulates the access to or from an elevator car.

212, Traversing Hoists, subclass 166 for a traversing hoist which raises a closure from above and shifts it laterally.  
 292, Closure Fasteners, subclasses 262+ for a link movably secured to a closure for securing it in closed or adjusted position, with no additional means to facilitate manipulation of the link to act as an operator for the closure.  
 296, Land Vehicles: Bodies and Tops, subclass 223 for land vehicle top structure having an opening therein, a closure for said opening and a means to actuate the closure between open and closed position.  
 312, Supports: Cabinet Structure, subclass 139 for an operator for a closure in a cabinet structure.  
 414, Material or Article Handling, subclass 684.3 for discrete door removing apparatus which includes a vertically swinging door-supporting member.  
 454, Ventilation, subclass 89 for an operator for an ice bunker closure, having a brace to hold the hatch in ventilating position.

### 325 Reversibly flexible and rigid rod:

This subclass is indented under subclass 324. Device wherein the closure moving means includes an actuator which is rigid to an axially applied force to move a closure but bendable in one direction transverse of its longitudinal axis to coil for storage.

## SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 108 for a reversibly flexible and rigid strip-like unit.

### 326 Moves closure in either direction from closed position:

This subclass is indented under subclass 324. Device wherein closure is mounted for movement in opposite directions and the moving means can be actuated in either direction from its closed position, e.g., away from the direction of movement of the user.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 149+, for a closure movable, at the option of the user, on either of two or more distinct mounting means from a closed to an open position.  
 263+, for a pedal actuated closure mounted for movement in opposite directions from a closed position.
- 327 Actuated from opposite approaches:**  
 This subclass is indented under subclass 324. Device wherein the actuator of the closure operating means is located adjacent the user's path of movement to and from and on each side of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 117, for interconnected concurrently movable closures, actuated from opposite approaches to the closures.  
 236+, for a closure in which a movement against the force of gravity imparts return bias to a swinging closure, in which the movements are imparted from opposite approaches.  
 269+, for a pedal or treadle actuator on opposite sides of the closure.  
 282+, for an operator interrelated with a closure latch release actuated from opposite sides of the closure.  
 326, for a closure mounted for swinging movement in opposite directions from a closed position, i.e., away from the direction of movement of the user, and having an actuator adjacent the user's path of movement on each side of the closure.
- 328 By vertically oscillating lever:**  
 This subclass is indented under subclass 327. Device wherein the actuator of the closure operating means includes pivoted arms which move back and forth about a horizontal axis which are alternately worked by the closure user to impart closure movement.
- 329 Link system connects lever to closure:**  
 This subclass is indented under subclass 328. Device provided with a series of arms which are pivoted to each other and join the operating means to the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 298, for a series of pivoted rigid arms connected at opposite ends of the series to an actuator and an interrelated latch release and closure mover.
- 330 Actuating force applied between link pivots; e.g., over center toggle-type:**  
 This subclass is indented under subclass 329. Device wherein the means actuating the series of pivoted arms transmits a force intermediate the length of the assembly of arms so as to extend or contract its ends, e.g., a toggle.
- 331 Pull cable, lever interconnector:**  
 This subclass is indented under subclass 327. Device wherein the closure actuating means includes a flexible element and a pivoted arm which joins the cable to the closure, the closure being actuated by pulling on the cable.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 347, for a one direction pull cable actuator.
- 332 Cable with pulley or drum:**  
 This subclass is indented under subclass 327. Device wherein the closure actuating means includes a flexible hoisting element and a pulley, sprocket, or winding drum over which the element is trained.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 352, for a cable and pulley or drum operator concealed within the closure housing.
- 333 Coaxial of closure pivot:**  
 This subclass is indented under subclass 324. Device wherein the closure actuating means is coaxial with the axis of a swingably mounted closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 115, for swinging closures, with a cable interconnection sheaved on their pivots.

**334 Motor driven:**

This subclass is indented under subclass 333. Device provided with a powered means, other than a mere spring, to actuate the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 18, for a motor operated control for a jail type closure.
- 32, for a motor operated closure in which the drive is energized by an initial manual displacement of the closure.
- 118, for motor driven closures interconnected for opposed, concurrent movement.
- 137, for a combined fluid motor operator and closure check.
- 138, for a motor driven closure having means to vary the closure speed or range of movement.
- 139, for a closure optionally moved, by a motor or by manual means.
- 167, for a motor operated window carried by a swingably mounted door in which the power conduit for the motor extends across the hinge of the door.
- 199, for a motor operated closure which moves from a vertical to a horizontal overhead position.
- 264, for an electric motor operated closure, activated by a pedal or treadle switch.
- 265, for a fluid motor operated closure, activated by a pedal or treadle valve.
- 280, for a closure latch release interconnected with a motor drive for the closure.
- 340, for a motor driven operating lever which swings about an axis parallel to that of the closure.
- 349, for a motor drive concealed within a housing for the closure.
- 358, for a motor mounted on and movable with the closure.

SEE OR SEARCH CLASS:

- 74, Machine Element or Mechanism, appropriate subclasses, for a nominally recited motor moving a nominally recited load (closure) through a force transmitting means of that class.
- 91, Motors: Expansible Chamber Type, appropriate subclasses, for a motor of that class moving a nominally recited

closure (load), and see (2) Note to 1 Class Definition of that class for the line.

- 92, Expansible Chamber Devices, appropriate subclasses, for a motor of that class moving a nominally recited closure (load), and see Lines With Other Classes of the Class Definition of that class (92) for the line.
- 110, Furnaces, subclass 177 for a motor operated furnace door.
- 246, Railway Switches and Signals, for closures such as gates combined with railway switches or signals, especially subclass 261 for a fluid-motor actuated railway gate and subclass 272 for a vehicle energy actuated gate using a fluid transmission.
- 303, Fluid-Pressure and Analogous Brake Systems, subclass 6.1 for a fluid-pressure brake for controlling a fluid motor which operates a closure.
- 318, Electricity: Motive Power Systems, subclasses 3+ for a nominally recited closure (load) having an electric motor drive combined with a control for the motor.
- 418, Rotary Expansible Chamber Devices, for a rotary expansible chamber device moving a nominally recited closure (load) and see Lines With Other Classes of the Class Definition to Class 91 for the line between Classes 91 and 49, the line between Classes 49 and 418 being the same.

**335 Coaxial gear:**

This subclass is indented under subclass 333. Device wherein the coaxial closure actuating means includes a rotating, radially toothed body.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 84, for a coaxial gear interconnection or operator for concurrently movable louver type closures.
- 287, for an operator, which includes a coaxial gear, interrelated with a closure latch release.

**336 Rack drive:**

This subclass is indented under subclass 335. Device wherein the closure actuating means includes an elongated bar having teeth on one face thereof which mesh with the radially toothed body.

**337 Worm drive:**

This subclass is indented under subclass 335. Device wherein the closure actuating means includes a helical gear which mesh with the radially toothed body.

**338 Link drives coaxial connector:**

This subclass is indented under subclass 333. Device wherein the closure actuating means includes an arm which is pivoted at one end to an element coaxial with the closure axis and at another point to an element of the closure actuator.

**339 Operating lever or link and closure swing about parallel axes:**

This subclass is indented under subclass 324. Device wherein the closure actuating means includes a pivoted arm which turns an axis parallel to the axis of a swingably mounted closure, including pivotally mounted motors or screw and nut devices which act as operating levers.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

96, for a common drive which imparts movement to closure connected levers in spaced openings.

356, for a push or pull handle pivoted to a closure in which the pivot axis is parallel to the closure axis and in which the handle does not react against a fixed point.

**340 Motor-driven lever:**

This subclass is indented under subclass 339. Device in which the closure actuating means includes a powered means, other than a mere spring.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

334, for a motor driven coaxial operator, and see the search note thereto for the loci of other motor driven closures.

**341 Gear-driven lever:**

This subclass is indented under subclass 339. Device in which the closure actuating means includes a body having force transmitting teeth or threads which move the pivoted arm.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

82.1, for louver type closures having a geared interconnector or operator to move the louvers.

107+, for a geared interconnector or operator for concurrently swinging closures.

**342 Toothed lever end engages gear:**

This subclass is indented under subclass 341. Device wherein the pivoted arm has teeth at one end thereof which teeth mesh with the teeth on a rotating body.

**343 Lever carries screw gearing component:**

This subclass is indented under subclass 341. Device wherein the toothed body comprises a helically threaded rod and a mating toothed block with one of these elements being mounted on the pivoted arm.

**344 Reciprocating rod drives lever:**

This subclass is indented under subclass 339. Device wherein the closure actuating means includes a sliding bar having a to and from motion which engages the pivoted arm.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

356, for a reciprocating rod directly connected to and moving the closure.

**345 Multiple links:**

This subclass is indented under subclass 339. Device wherein the closure actuating means includes a plurality of arms which are pivotally connected to each other.

**346 Lever end slide engages guide on closure:**

This subclass is indented under subclass 339. Device wherein the closure actuating means includes a pivoted arm having terminal portion connected to and confined for sliding movement along or in an elongated slot or guide on the closure.

- SEE OR SEARCH CLASS:  
403, Joints and Connections, subclass 61  
for a pivot stud slidable in an elongated opening.
- 347 One direction pull cable:**  
This subclass is indented under subclass 324. Device wherein the closure actuating means comprises a flexible chain, rope or the like which is grasped by hand and pulled to move the closure in one direction, and wherein the closure movement in the other direction is obtained by means other than the pull cable, e.g., a spring, the weight of the closure, etc.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
4, for a pull cable with a fusible connection.  
301, for a pull cable closure mover and closure latch release.  
331, for a pull cable actuator on opposite approaches to closure, interconnected by a lever.  
356, for a closure moved by a push rod in one direction and biased to move in the other direction by a spring, etc.
- 348 Drive within closure housing:**  
This subclass is indented under subclass 324. Device provided with a pocket or receptacle, formed in the structure adjacent the closure opening to store the closure in its open position, and wherein the closure actuating means is enclosed within said pocket or receptacle.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
372+, for a closure stored in a housing, and see the search notes thereto for the loci of other closures stored in a housing.
- 349 Motor driven:**  
This subclass is indented under subclass 348. Device wherein the closure actuating means within the pocket or receptacle includes a powered means, other than a mere spring.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
334, for a motor driven coaxial operator, and see the search notes thereto for the loci of other motion driven closures.
- 350 Gear-driven lever moves within limits of housing:**  
This subclass is indented under subclass 348. Device wherein the closure actuating means includes a rotating toothed body which actuates a pivoted arm and wherein the movement of said arm is within the confines of the pocket or receptacle.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
146, for a similar operator which both raises the closure and moves it horizontally.  
349, for a motor actuated gear driven lever.
- SEE OR SEARCH CLASS:  
16, Miscellaneous Hardware, subclass 200 for similar lever arrangements connected to a spring to hold the closure in adjusted position.
- 351 Multiple levers:**  
This subclass is indented under subclass 350. Device wherein the closure actuating means includes two or more pivoted arms.
- 352 Cable drive:**  
This subclass is indented under subclass 348. Device wherein the closure actuating means includes a flexible chain, rope or the like and a pulley, sprocket, or winding drum over which it is trained.
- 353 Exposed handle drives concealed lever:**  
This subclass is indented under subclass 348. Device wherein the closure actuating means includes a pivoted arm and a handle which extends exteriorly of the pocket or receptacle to transmit a force to the lever.
- SEE OR SEARCH THIS CLASS, SUBCLASS:  
350+, for a gear driven lever operator actuated by an exposed handle.
- SEE OR SEARCH CLASS:  
16, Miscellaneous Hardware, subclass 200 for similar lever arrangements connected to a spring to hold the closure in adjusted position.

**354 Through wall type:**

This subclass is indented under subclass 324. Device wherein the closure actuating means includes means at one side of and extending through a transverse passage in a wall to a closure located on the opposite side of the wall.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

357, for an operator, the input of which is located at a place removed from the closure.

**355 With weather seal or flap for drive element:**

This subclass is indented under subclass 354. Device provided with means to close or reduce the area of the transverse passage to prevent or reduce the flow of ambient air or moisture therethrough.

**356 Push-rod actuator:**

This subclass is indented under subclass 324. Device wherein the closure actuating means includes an elongated bar which is manually grasped by hand and pushed or pulled to impart a movement to the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

53, for a handle actuator which extends through a grille.

325, for a push rod which is reversibly flexible and rigid.

354+, for a push rod actuator of the through wall type.

460+, for a residual combination of a handle with a closure.

SEE OR SEARCH CLASS:

292, Closure Fasteners, subclasses 262+ for a link movably secured to a closure for securing it in closed or adjusted position, with no additional means such as a handle or extension to facilitate manipulation of the link to act as an operator for the closure.

**357 Remote actuating or initiating station:**

This subclass is indented under subclass 324. Device wherein a closure actuating means is located at a place removed from the closure usually for use by a nonuser of the closure passage.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

15+, for a jail type closure with remote closure control.

302, for a remote actuator for an operator interrelated with a closure latch release.

334, for a motor powered closure operator coaxial with a closure pivot and see the search notes for other motor powered closure combinations.

347, for a closure operated by a remote pull cable actuator.

354, for a through wall type operator.

**358 Closure-mounted drive:**

This subclass is indented under subclass 324. Device wherein all of the means movable relative to and actuating the closure is carried by it, except the component attached to the closure supporting structure.

**359 Lever-actuated drive:**

This subclass is indented under subclass 358. Device wherein the closure carried means includes a pivoted arm.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

101, for a similar lever structure which imparts movement to closures at different speeds.

**360 Operator drives closure along guide:**

This subclass is indented under subclass 324. Device provided with a guide mounting the closure for sliding movement, and wherein the closure actuating means moves the closure along the guide.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

359, for a closure mounted lever operator for a sliding closure, e.g., elevator door type.

**361 Common input for drives adjacent opposed guides:**

This subclass is indented under subclass 360. Device including closure actuating means adjacent opposed closure guides and wherein a single power source is interconnected to the opposed actuating means.

**362 Rack or screw parallel to closure guide:**

This subclass is indented under subclass 360. Device wherein the closure actuating means includes an elongated bar with teeth on one face or an elongated rotating helical gear, and wherein said bar or gear extends in a direction parallel to the closure guide.

**363 Lever:**

This subclass is indented under subclass 360. Device wherein the closure actuating means includes a pivoted arm.

**364 BUMP ACTUATED LATCH RELEASE FOR BIASED CLOSURE:**

This subclass is indented under the class definition. Device provided with an impact receiver which is connected to a position holder to effect disengagement thereof upon impact, as from the bumper of a vehicle, and means for urging the closure to an open or a closed position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

279+, for closure operator interconnected with a latch release.

503, for a closure panel modified to accommodate a latch or lock, and see the search notes thereto for the loci of other latches and locks.

**365 CLOSURE MOUNT OR STOP ON INDEPENDENT MOVABLE OR REMOVABLE CENTER POST:**

This subclass is indented under the class definition. Device provided with an upright frame member adapted to be engaged by adjacent closures in their closed position or adapted to support the adjacent closures for movement, and wherein said frame member is mounted for a separate and distinct movement relative to the closures so as to double the useable area of the closure opening.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

45, for a plural wing revolving closure in which the center post about which the wings revolve is movable to one side of the opening.

316, for a retractable upper support which guides a closure from a housing.

SEE OR SEARCH CLASS:

160, Flexible or Portable Closure, Partition, or Panel, subclass 119 for a plural strip, slat or panel assembly mounted on opposite sides of a single support, which support is not independently movable or removable.

296, Land Vehicles: Bodies and Tops, subclass 150 for a convertible vehicle body with a displaceable pillar intermediate adjacent closures.

**366 BIPARTITE, CENTER OPENING:**

This subclass is indented under the class definition. Device comprising two closures which move apart in opposite directions from an edge to edge closed position to form an opening.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

116+, for similar device wherein the closures are interconnected to move in unison.

168, for plural closures which move together and independently.

371, for plural swinging closures for a single opening in which the closures move from a closed position in which a hinge edge of one abuts a free edge of another.

464, for removable, independent closure sections.

**367 Overlapping meeting edges:**

This subclass is indented under subclass 366. Device wherein the adjacent edges of the closures in their closed positions extend over and beyond each other.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

458, for interengaging meeting rails on side by side sliding closures.

**368 With disparate seal:**

This subclass is indented under subclass 367. Device comprising a sealing member of different material from that of the closures which member acts between the overlapping meeting edges.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 473, for a disparate seal between a combined stop, seal and stiffener on a closure and its frame.
- 475.1+, for a closure combined with a seal and see the notes thereto for the loci of similar art.

### 369 **Z-bar-type edge:**

This subclass is indented under subclass 367. Device in which one of the closures includes a meeting edge of generally Z shape in cross-section, and the other closure has a meeting edge to fit within the Z bar.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 472+, for a closure having a Z-bar combined seal, stop and stiffener.

### 370 **Sliding closures:**

This subclass is indented under subclass 366. Device wherein the closures are guided for rectilinear movement in opposite directions.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 40, for arcuate closures moving across a single opening.
- 367+, for sliding bipartite center opening closures having overlapping meeting edges.
- 409+, for a sliding closure dependent from an upper hanger.
- 425+, for a sliding closure mounted on balls, rollers or the like.

### 371 **SWINGING CLOSURES CLOSING SINGLE OPENING:**

This subclass is indented under the class definition. Device comprising two or more closures moving about a fixed pivot and which close or vacate a single opening.

- (1) Note. Plural duplicate closures in plural openings have been classified in appropriate subclasses below on the basis of the single closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 61+, for back to back closures for a single opening.
- 73.1+, for closures interconnected for concurrent movement, particularly subclasses 74+ for louver closures, and subclasses 104+ for swinging closures.
- 171, for a single closure for plural openings.
- 366+, for bipartite, center opening, plural swinging closures.
- 381+, for plural closures for plural openings, and see (1) Note above.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 206+ for a wall having closures for plural openings in the wall.

### 372 **STORED IN HOUSING:**

This subclass is indented under the class definition. Device comprising a closure, and a pocket or receptacle formed in the structure adjacent the closure opening to house the closure when it moves to vacate a portal (non-housed) position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 48, for a closure storable in a housing and having a cut out or movably mounted section to permit hand signalling therethrough.
- 125+, for folding or stacking closures stored in a housing.
- 131+, for a flush swinging closure storable in a recess in the passage it closes and over the surface of which the user passes.
- 207, for closures having independent longitudinal movement into and out of a storage housing.
- 211, for a multidirectional closure in which a transverse movement aligns the closure with a housing opening or guide.
- 227, for a closure having a multidirectional movement in the plane of the closure from a housing.
- 348+, for an operator concealed within a closure housing.

- 409+, for a pendant closure, reciprocable into and out of a housing.
- 425+, for a closure mounted on anti-friction means, reciprocable into and out of a housing.
- SEE OR SEARCH CLASS:
- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 19+ for closures, partitions and panels, of the type provided for, movable into a storage chamber, particularly subclass 37.
- 296, Land Vehicles: Bodies and Tops, subclass 146.2 for a combination of a door and window associated in a vehicle body; and subclasses 149+ for closure receiving pockets on a vehicle door and on an adjacent vehicle body section.
- 373 With cover or lid for housing opening:**  
This subclass is indented under subclass 372. Device provided with means other than the closure edge which closes or seals the mouth of the opening formed in the closure receiving pocket or receptacle.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 316+, for an operator for a sealing, locking or guiding strip.
- 374 Reciprocates vertically in and out of housing:**  
This subclass is indented under subclass 372. Device provided with means mounting the closure for sliding movement in an up and down direction to and from a housed position.
- 375 Vertical extension on closure bottom edge guided with housing:**  
This subclass is indented under subclass 374. Device provided with means extending downward from the lower edge of the closure which engages a bearing surface within the pocket or receptacle.
- 376 Inclined guide on side edge of portal opening:**  
This subclass is indented under subclass 374. Device provided with a frame member extending from the pocket or receptacle and forming an enclosure to receive the closure in its out-of-housing (portal) position, in which one of the closure receiving side edges of the frame member forms an angle other than a right angle with the means defining the portal opening.
- 377 With cushioning means adjacent housing opening:**  
This subclass is indented under subclass 374. Device provided with flexible or elastic means engaging between the closure and frame at the mouth of the pocket or receptacle opening to prevent or dampen the movement of one with respect to the other, e.g., antirattlers, seals and bumpers.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 414+, for a reciprocating closure having a distinct biasing means for the bearing surface.
- 428+, for a reciprocating closure having a spring bearing surface.
- 485.1+, for a seal between an overlapping closure and frame.
- 378 One-piece housing facing and portal frame contains guide:**  
This subclass is indented under subclass 374. Device provided with a frame member adjacent the pocket or receptacle forming an opening to receive the closure in its passage blocking (portal) position, and wherein the closure guide is carried by a continuous integral member forming a facing panel for the pocket or receptacle and one side of the frame member for the portal opening.
- 379 LATCH RELEASE OF MOVEMENT-STORED ENERGY:**  
This subclass is indented under the class definition. Device comprising a means to store potential energy upon the movement of a closure in one direction, and a means to hold the closure in that direction against return movement, and a device to release the closure from the holding means to permit the stored energy to return the closure to its beginning position.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 1+, for a latch responsive to heat (e.g., fusible) to release a closure for movement by movement stored energy.
- 21, for a latch responsive to a fluid, such as water, to release a closure for

- movement by movement stored energy.
- 29, for a time controlled latch for releasing a closure for movement by movement stored energy.
- 110+, for movement stored energy which acts on a lever interconnecting concurrently swinging closures.
- 236+, for a latched closure having a multidirectional opening movement, one component of which is against the force of gravity, so that when released, the closure returns to closed position.
- 273+, for a pedal actuated, load maintained, self-returning closure.
- 324+, for a closure having energy storing means as defined above combined with an operator for moving it to an energy storing position.
- 364, for a bump actuated latch release.
- 386, for biasing means for a swinging closure.
- 394, for a latch or lock for a swinging closure.
- 449, for a latch or lock for a sliding closure.

## SEE OR SEARCH CLASS:

- 74, Machine Element or Mechanism, subclasses 2+ for a trip mechanism to release a closure latch to permit the closure to move.

**380 MOVABLE CLOSURE AND ITS SUPPORT TRANSFERABLE AS UNIT:**

This subclass is indented under the class definition. Device comprising a movable closure and a structure supporting the closure for movement, and wherein the closure and supporting structure are handled as a unit for insertion into an opening or for conveyance from one place to another, e.g., a movable closure mounted on a removable frame.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 45, for a plural wing revolving door in which the wings and their mounting means are bodily moved to one side of the opening to provide a through passage.
- 163+, for a closure and frame unit, in which the closure is movable independently

- of and with another closure on which it is mounted, and especially subclass 171 for a peephole or letter slot closure and frame unit.
- 365, for a closure mounted on a center post which is movable or removable independently of the closure.
- 463+, for a closure removable relative to its supporting structure.

## SEE OR SEARCH CLASS:

- 160, Flexible or Portable Closure, Partition, or Panel, subclass 351 for portable closure and frame units of that class.
- 206, Special Receptacle or Package, subclass 331 for a building component packaged closure and frame unit; i.e., having additional means to hold the parts in position, or to protect them, during shipping or storage.

**381 WITH MEANS MOUNTING CLOSURE FOR SWINGING:**

This subclass is indented under the class definition. Device provided with means mounting the closure for movement about a pivot to open or close a passage.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 12, for an axially pivoted picket pole flood gate.
- 67, for an auxiliary closure mounted for swinging movement.
- 131+, for a closure mounted to swing flush with the ground.
- 147, for a closure which swings on a flaccid connector.
- 149+, for a closure with optional movements in which one of the movements is a swinging movement.
- 208+, for a closure with multidirectional movement which includes a turning about a pivot.
- 324+, for an operator for a swinging closure.
- 371, for a plural swinging closures and see the search notes thereto for the loci of other plural swinging closures.
- 501+, for a closure modified to accommodate a hinge.
- 504+, for a frame modified to accommodate a hinge.

## SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware, subclasses 221+ for a hinge, per se, or a hinge attached to a closure or frame, wherein the only recitation of the closure or frame structure is that which is necessary to mount the hinge.
- 296, Land Vehicles: Bodies and Tops, subclasses 210+ for land vehicles having a roof and having an opening therein and swingably mounted closures for said opening.
- 312, Supports: Cabinet Structure, subclass 319.2 for a cabinet component which pivots about a fixed axis.

**382 Hinging position reversal means:**

This subclass is indented under subclass 381. Device provided with means at a plurality of alternately used space points to receive hinge mounting means, whereby the closure may be mounted to swing from either side and in either direction.

## SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 192+, for a closure with optional movement on alternate axes.

## SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware, subclass 265 for reversible hinge hardware.

**383 Hinge edge, finger guard, lock or disparate seal:**

This subclass is indented under subclass 381. Device provided with a seal or guard device acting at the juncture nearest the mounting means of the closure and frame which device (1) is different from that provided at other sides of the closure to seal the juncture gap, (2) prevents the insertion of a finger or similar object in the juncture, or (3) prevents opening of the closure upon removal of the hinges, e.g., an antipeep seal.

## SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 475+, for a closure seal or striker gasket which inherently functions as a finger guard, and see the search notes thereto for the loci of other seals.

## SEE OR SEARCH CLASS:

- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 40+ for fillers to close small openings between a frame and a closure of that class due, for example, to improper fit.

**384 Cylinder and sleeve-type:**

This subclass is indented under subclass 383. Device wherein the seal or guard device includes a cylindrical portion and a mating concave recess portion, the recess and cylindrical portion having the same axis.

**385 Transverse pivot; e.g., single pivoted corner:**

This subclass is indented under subclass 381. Device wherein the closure swings about an axis passing through the thickness dimension thereof.

## SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 41, for an arcuate closure which moves about an axis concentric with the axis of the opening.
- 327+, for a pivoted closure of this type provided with an operator actuatable from opposite sides of the closure.

**386 With biasing means:**

This subclass is indented under subclass 381. Device provided with means for urging or retaining the closure to an open or a close position by a biasing action thereon, e.g., spring weight.

## SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 21+, for closure biased to a desired position, and having means responsive to the presence of a fluid to move the closure against the action of the biasing means.
- 60, for a closure having a biasing means, such as a spring, in which energy is stored by the operation of an animal scarer while the closure is being opened, and which means urges the closure to a closed position.
- 89, for a biasing means for interconnected lower type closures.

- 197+, for a means to bias a closure from a vertical to a withdrawn horizontal overhead position.
- 236+, for a swinging closure having multidirectional opening and closing movement in which one direction is against the force of gravity to bias the closure to move oppositely; e.g., rising hinge type.
- 273+, for a load maintained; self-returning pedal or treadle actuated closure.
- 379, for a latch release, self-returning closure.
- SEE OR SEARCH CLASS:
- 16, Miscellaneous Hardware, subclasses 277+ for resiliently biased hinges; and subclass 71 for closer hardware.
- 248, Supports, subclass 417 for a biased or self-returning rotating stand.
- 387 Distinct weight:**  
This subclass is indented under subclass 386. Device wherein the biasing means includes a disparate weight, not a part of the mass of the closure.
- SEE OR SEARCH CLASS:
- 16, Miscellaneous Hardware, subclass 81 for closer hardware utilizing weights.
- 388 Pivots on opposed portal members:**  
This subclass is indented under subclass 381. Device wherein the mounting means are positioned in frame members on opposite sides of the swinging closure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 74.1+, for a series of louvers mounted on opposing frame members and interconnected for concurrent movement.
- 389 Closure removable in inclined position:**  
This subclass is indented under subclass 388. Device wherein the mounting means on the closure and the frame may be readily disengaged to permit removal of the closure, when the closure is angularly related to the frame in an open position.
- 390 Closure portions on opposite sides of portal in open position:**  
This subclass is indented under subclass 388. Device wherein portions of the closure on each side of the pivot when the closure is swung to open position extend outwardly of the frame of the opening on opposed transverse sides thereof; i.e., the pivots are intermediate the length of side edges of the closure.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 176+, especially subclass 181, et seq., for a closure mounted on a sliding member for swinging to an optional open position on opposite sides of the closure opening.
- 391 Inclined opposed member; e.g., vent window-type:**  
This subclass is indented under subclass 390. Device wherein the opposing pivot mounting members are not parallel, e.g., wing type “ventilator” windows for vehicles.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 144, for a “ventilator” closure combined with a vertically sliding closure.
- 333+, for a closure and operator with coaxial pivots.
- 392 Diagonally opposed stops or seals:**  
This subclass is indented under subclass 390. Device wherein a means to seal the closure juncture or to limit the movement of the closure includes movement limiting portions, i.e., stops or seals on the edge surfaces of the frame or closure the portions being above and below the pivot axis and diagonally opposed relative to the edge surface.
- SEE OR SEARCH THIS CLASS, SUBCLASS:
- 182, for diagonally opposed flanges on a stile slide and closure mounted thereon.
- 391, for a vehicle vent window having diagonally opposed stops or seals.

**393 On pivot carrying portal members:**

This subclass is indented under subclass 392. Device wherein the stops or seals are mounted on the opposing frame members carrying the pivots.

**394 With latch or lock:**

This subclass is indented under subclass 381. Device provided with a separate position holder, i.e., latch or lock.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 46+, for a turnstile having a latch or detent to hold successive arms in passage barring position.
- 49, for a closure having means to restrict the direction of travel through a passage, or to regulate the number of users of a passage.
- 279+, for a closure operator interconnected with a latch release.
- 383, for a lock or latch adjacent the hinge edge.
- 391, for a vehicle vent window having a friction applying means on its pivot to hold the vent in adjusted position.
- 503, for a closure panel modified to accommodate a latch or lock and see the search notes thereto for the loci of other latches and locks.

**395 Plural; e.g., gang:**

This subclass is indented under subclass 394. Device including a plurality of position-holders which are operable separately or concurrently on the same closure.

**396 Compensator for front end weight; e.g., sag preventer:**

This subclass is indented under subclass 381. Device comprising a means in addition to the closure pivot means which acts to relieve the turning moment about the closure pivot and in the plane of the closure, e.g., counterweights, tension chains and extensions of the closure acting on the hinge side of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 191+, for a means to tilt the closure about a horizontally opened axis in a vertical direction.

- 192+, for a closure swingable on pivots about a vertical axis, and additionally swingable in the plane of the closure about one of the pivots to open a lower corner of the closure.

SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclass 291 for a building structure, e.g., panel, with warp correction means.

**397 Unitary structural member and hinge element:**

This subclass is indented under subclass 381. Device wherein the pivot means or a portion thereof is integral with the frame or closure structure.

**398 Concealed hinge:**

This subclass is indented under subclass 381. Device wherein the pivot means is a hinge, the axis of which is disposed behind the plane formed by the outside face of the closure to avoid any outside projection of the hinge and to hide it from view in the closed position of the closure.

**399 Hinge leaf mounted on closure edge surface:**

This subclass is indented under subclass 381. Device in which the mounting means includes a leaf-type hinge, a leaf of which is mounted on edge surface of the closure, i.e., that portion which lies between the major faces of the closure.

**400 Closure nests within portal frame:**

This subclass is indented under subclass 381. Device wherein the closure or a portion thereof, in its closed position, fits within or projects into the closure opening formed by surrounding frame members.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 161+, for a sliding closure with a swinging enclosed section nested within its marginal frame.

**401 Marginal closure flange overlaps portal frame:**

This subclass is indented under subclass 400. Device wherein the closure is provided with a marginal flange which overlies the frame of the opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 402, for a closure which overlies the frame members forming the closure opening.
- 470, for a threshold and a closure having overlapping angle members.

**402 Closure overlies portal frame:**

This subclass is indented under subclass 381. Device wherein the closure, in its closed position, abuts against the exterior lateral faces of the frame members forming the opening.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 401, for a closure which has an overlying marginal flange in addition to that portion which fits within the closure opening.

**403 Louver end caps; e.g., mounting clips:**

This subclass is indented under subclass 381. Device comprising mounting means, per se, which mounting means includes a journal portion and means for fastening the mounting to an end of a louver panel.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 74.1+, for a louver having a mounting clip or bracket and interconnected for movement with other louvers.

**404 WITH MEANS MOUNTING CLOSURE FOR RECIPROCATION:**

This subclass is indented under the class definition. Device provided with means mounting the closure for rectilinear reciprocation, i.e., straight-line motion in opposite directions, e.g., sliding while constrained by a guide which acts as a bearing surface portion.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 63, for a sliding auxiliary closure.

- 149+, for a closure mounted for two or more alternative movements, one of which is reciprocation.

- 207, for superimposed closures with independent longitudinal rectilinear movement.

- 208+, for a closure whose movement is multidirectional, and in which one component of movement is reciprocation.

- 316, for a rectilinearly moving closure having closure guiding supports which move from a withdrawn inoperative position to an extended guiding position.

- 360+, for an operator for a reciprocating closure.

- 374+, for a closure which reciprocates vertically in and out of a housing.

SEE OR SEARCH CLASS:

- 114, Ships, subclass 120 for bulkheads and doors of a ship mounted for sliding movement.

- 312, Supports: Cabinet Structure, subclasses 330.1+ for a cabinet component with horizontal sliding movement.

**405 By link mount:**

This subclass is indented under subclass 404. Device wherein the mounting means includes a pivoted arm.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 233, for a closure mounted on a pivotal link arm and having a multidirectional movement in the plane of the closure.

SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware, subclass 92 for a hanger comprising links and levers.

**406 With plug, flap, or bridger for meeting rail:**

This subclass is indented under subclass 404. Device provided with an inserted plug, a flap or a bridging plate member positioned or movable to be positioned when the closure(s) is in its closed position (1) to span the space between a side portal frame member and a meeting rail, i.e., the upper rail of a lower sash or the lower rail of an upper sash; or (2) to

bridge the gap between the meeting rails of adjacent sashes.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 458, for meeting rails having portions which interfit with each other.
- 472+, and 475.1+, for another seal between meeting rails, particularly subclass 483.1 for meeting rails each having mating seal portions and subclass 485.1 for a seal between overlapping meeting rails, where a seal(s), per se, or a seal(s) and sufficient structure to mount a seal or to juxtapose seal components, is defined.

**407 Guide mounted stop spaces closure from sill:**

This subclass is indented under subclass 404. Device provided with a stop means disposed at or near the end of a vertical guide mounting the closure for sliding movement, so as to limit the movement of the closure to a point spaced from the sill.

**408 Drain or vent in guide or sash:**

This subclass is indented under subclass 404. Device provided with a device on a means mounting the closure for movement, or on the closure itself, to channel or convey fluid.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 476, for a fluid drain in a closure mounted seal, or for a closure face mounted deflector, and see the search notes thereto for the loci of other drains, vents and deflectors.

SEE OR SEARCH CLASS:

- 296, Land Vehicles: Bodies and Tops, subclass 213 for vehicle having a roof and having an opening therein and a closure for said opening and having means to guide or drain water.

**409 Pendant from horizontal guide:**

This subclass is indented under subclass 404. Device wherein the closure hangs from an overhead guide.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 209+, for a pendant closure with initial or terminal movement transverse to a plane of translation.
- 231, for a pendant closure which gravitates on a tilted track.
- 372+, for a pendant closure combined with a housing in which it is stored.

SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware, subclasses 86.1+ for a hanger for a pendant sliding gate, and subclasses 87+ for a hanger or a track for other pendant sliding closures.
- 104, Railways, subclass 93 for a suspended railway of the single rail type.
- 105, Railway Rolling Stock, subclasses 150+ for suspended railway rolling stock of the single rail type.
- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 19+, 123+, 196+, and 330+ for closures, partitions and panels of the type there classified having hangers, travelers and track devices.

**410 With guide for lower edge of closure:**

This subclass is indented under subclass 409. Device provided with means engaged by the lower portion of the closure to direct that portion along its path of travel.

SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware, subclass 90 for a guide bracket for the lower end of a pendant closure, and subclass 91 for a guide roller.

**411 Threshold or sill guide:**

This subclass is indented under subclass 410. Device wherein the guide for the lower portion of the closure lies within or extends upwardly from the upper surface of the lower horizontal component of the frame of the opening.

**412 Overlapping angles shield track-closure crevice:**

This subclass is indented under subclass 409. Device provided with members of angular cross-section adjacent the juncture of the guide and the closure, and wherein the flanges of

each extend over and beyond the other to oppose the passage of dust or debris into the closure opening.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

458, for overlapping angles at the meeting rails of adjacent closures.

**413 Horizontally sliding sashless-type:**

This subclass is indented under subclass 404. Device wherein the closure is a unitary pane with the edge portion thereof serving as a bearing surface for movement along a horizontal guide.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

440+, for a sashless closure guided for vertical reciprocation in channel guides.

**414 With distinct biasing means for slide or guide:**

This subclass is indented under subclass 404. Device wherein the mounting means includes a slide or guide, and wherein either the slide or guide is provided with means disparate from its inherent resilience for biasing it into either a supporting frame or a closure engagement, e.g., to increase friction to hold the closure.

- (1) Note. A spring guide on one side of a reciprocating closure inherently urges a guide on the opposite side into engagement with that side of the frame. However, such devices have not been considered as distinct biasing means for bearings for this subclass and have been classified below, e.g., in subclasses 428+.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

251, for a biased slide mount on which a closure is pivotally mounted.

377, for a biased cushioning means adjacent a housing opening.

480.1+, for a closure seal or striker gasket with a distinct biasing means.

SEE OR SEARCH CLASS:

292, Closure Fasteners, subclasses 14+ and 70+ for a closure fastener which resiliently or frictionally holds a closure in

position. A double acting fastener with distinct biasing means which functions as a bearing for a sliding closure is found in this subclass 414 and subclasses indented thereunder.

**415 Acting transversely of closure face:**

This subclass is indented under subclass 414. Device wherein the biasing means acts in a direction normal to the plane of the sliding movement of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

436, for a transversely acting resilient bearing surface.

**416 Biased side guide or parting strip:**

This subclass is indented under subclass 415. Device wherein the biasing means acts on that portion of the closure guide which lies to one side of the closure or acts on a stop which is intermediate sliding closures.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

423, for a parting strip biased laterally.

**417 With means to adjust or retract biaser:**

This subclass is indented under subclass 414. Device provided with means to vary or withdraw the force of the disparate biasing means which urges the slide or guide into engagement with the frame or closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

316+, for an operator for a sealing, guiding or locking strip.

**418 Adjusting screw coaxial of coil spring:**

This subclass is indented under subclass 417. Device wherein the biasing means is a coil spring, and wherein the adjusting means is a screw having the same axis as the coil spring.

**419 Nonmetallic biaser:**

This subclass is indented under subclass 414. Device wherein the biasing means is a material other than metal, e.g., rubber.

**420 Ball or roller bearing:**

This subclass is indented under subclass 414. Device wherein the slide or guide surface makes contact with a cooperating surface, e.g., utilizes a ball or roller bearing.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 417+, for a ball or roller bearing with an adjustable biaser.
- 425+, for a reciprocating closure guided by a ball or roller bearing.

**421 Closure carried:**

This subclass is indented under subclass 414. Device wherein the biased slide is mounted on and moves with the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 437+, for a diverse or springy bearing mounted on the closure.

**422 Biaser permits self-adjustment of single guide for plural closures:**

This subclass is indented under subclass 414. Device wherein a single bearing member forms a guiding surface for a plurality of closures, and wherein the biasing means engages the member to vary the force with which the surface engages the edge surfaces of the closures, e.g., spring means adjust the guide to the closure to compensate for variations in them or the guide.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 434+, for an integral, diverse or spring, bearing surface for plural closures.

**423 Slide or guide with transverse restrainer:**

This subclass is indented under subclass 414. Device wherein the biased slide or guide has a means thereon which engages the closure and acts to limit its movement in a direction normal to the plane in which the closure reciprocates.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 436+, for a diverse or spring bearing surface which includes a transverse restraint.

**424 Baffle plate guided in chamber slot:**

This subclass is indented under subclass 404. Device wherein the mounting means includes a closure guiding and receiving slot in one side of a walled space, and a plate on the closure projecting through the slot and serving to deflect and retard movement of a fluid, e.g., air, around the edge of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 436+, for a rib and slot type guide in which the rib or slot edges are a diverse or spring bearing surface.
- 437+, for a closure mounted rib, guided in its reciprocation by a slot in the frame.
- 442+, for a fixed rib or plate engaging a slot in a closure.

**425 Revolving guide component; e.g., roller or gear:**

This subclass is indented under subclass 404. Device provided with a rolling means interposed between the closure and its support to guide the closure in its movement, e.g., revolving bearing component on gear.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 228+, for a closure provided with rolling means which gravitates on a tilted track.
- 409+, for pendant closure with a ball or roller bearing.
- 420, for a closure provided with a ball or roller having a distinct biasing means acting upon the journals thereof.

SEE OR SEARCH CLASS:

- 384, Bearings, appropriate subclasses for bearing and/or bearing surfaces, per se.

**426 Offset from plane of portal; e.g., freight car door:**

This subclass is indented under subclass 425. Device wherein the rolling means is spaced to the side of the major plane of the frame which forms the closure opening.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 235, for a closure which is moved vertically by a relative movement between an offset track roller and the closure to retard horizontal travel.
- 427 On support edgewise of passage:**  
 This subclass is indented under subclass 425. Device wherein rolling means is carried by a structure edgewise of the side of the means defining a passage.
- 428 Diverse or springy material guide or slide:**  
 This subclass is indented under subclass 404. Device wherein the mounting means includes a slide or guide provided with a resilient or flexible bearing portion or wherein the bearing surface of the slide or guide is of a material dissimilar to the closure or frame; e.g., metal versus wood.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 414+, for a reciprocating closure having a distinct biasing means for a diverse or spring bearing surface.  
 475.1+, for a seal for a closure, and see the notes thereto.
- SEE OR SEARCH CLASS:  
 52, Static Structures (e.g., Buildings), subclasses 204.591+ for a spring or diverse mounting element fastening a pane in a peripheral frame, e.g., sash.  
 292, Closure Fasteners, subclasses 14+ and 70+ for a closure fastener which resiliently or frictionally holds a closure in position but does not function as a bearing for a sliding closure.
- 429 Cooperates with counterbalance hardware:**  
 This subclass is indented under subclass 428. Device wherein the slide or guide engages or accommodates counter-balance hardware.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 445+, for a sliding closure having a counter-balance.
- 430 Counterbalance within jamb-guide gap:**  
 This subclass is indented under subclass 429. Device wherein a guide is mounted outwardly of the side jamb of the frame and between the jamb and closure, and wherein the counterbalance spring or weight is received between the guide and jamb.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 447+, for a counterbalance weight received within a recess behind a guide, i.e., within a hollow jamb.
- 431 Interengaging sections on portal and closure:**  
 This subclass is indented under subclass 428. Device wherein the slide or guide comprises two or more separate and mating parts and wherein one of the parts is mounted on the frame and another on the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 483, for a closure seal with interengaging sections on adjacent members.
- 432 On parting strip and adjacent closures:**  
 This subclass is indented under subclass 431. Device wherein the bearing part of the frame includes a parting bead intermediate adjacent closures, and wherein said parting bead is engaged by bearing parts on the closures.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
 434, for an integrally formed parting strip having portions engaged by side by side closures.
- 433 Plural interdigitants:**  
 This subclass is indented under subclass 431. Device wherein each of the mating parts resemble, in cross-section, a plurality of fingers which interfit with a plurality of fingers of the other part to provide a tortuous course guide.
- 434 Single guide or slide for facially adjacent closures:**  
 This subclass is indented under subclass 428. Device wherein an integrally formed bearing portion is engaged by side by side closures.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
422, for a biaser which permits self-adjustment of a single unitary guide for plural closures.
- 435 Parting strip with integral, opposite wings:**  
This subclass is indented under subclass 434. Device wherein the bearing portion includes a stop or bead separating two closures and having integral flanges extending on opposite sides of the stop or bead and wherein the stop or bead is mounted between the closures so that the flanges form the slide path of the closures.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
432, for a parting strip having integral, opposite wings which inter-engages with a diverse or spring bearing surface on a closure.
- 436 Bearing includes transverse restrainer:**  
This subclass is indented under subclass 428. Device wherein a bearing surface portion of a slide or guide acts to limit movement of a closure in a direction normal to the plane in which it reciprocates.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
415, for a biaser transversely applied to a bearing surface.
- 437 Closure mounted:**  
This subclass is indented under subclass 436. Device wherein the bearing surface portion is carried by and moves with the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
421, for a bearing portion having a distinct biaser and carried by a closure.  
431, for a bearing portion mounted on a closure, interengaged with a bearing portion mounted on a frame part.
- 438 On closure edge:**  
This subclass is indented under subclass 437. Device wherein the bearing surface portion is mounted on the edge surface of the closure, i.e., on that portion of the closure which lies between and at an angle to the major faces of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
488, for a seal mounted on a closure edge.
- SEE OR SEARCH CLASS:  
52, Static Structures (e.g., Buildings), subclasses 624+ for a panel edge enclosed by a channel.
- 439 Cap-type:**  
This subclass is indented under subclass 438. Device wherein the bearing surface portion encompasses the edge surface of the closure and extends parallel to the major surfaces toward the center thereof.
- 440 Channel guide:**  
This subclass is indented under subclass 436. Device wherein the bearing surface portion is U-shaped in cross section and receives the closure between the legs thereof.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
438+, for a channel shaped bearing surface mounted on an edge of a closure.
- 441 Converging sides or ends:**  
This subclass is indented under subclass 440. Device wherein the sides or free ends of the channel incline or bend towards the closure.
- 442 Guide engages slot in closure:**  
This subclass is indented under subclass 436. Device wherein the bearing surface portion includes a projecting rib or protuberance which slidably interfits with an elongated opening running the length of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
421, for a closure mounted baffle plate guided in a slot in a wall of a chamber.  
440+, for a sashless closure having its edge guided in a channel bearing.
- 443 On closure face:**  
This subclass is indented under subclass 442. Device wherein the slot lies in one of the major surfaces of the closure.

**444 Portion engages edge surface:**

This subclass is indented under subclass 442. Device wherein the bearing surface portion includes a side portion which extends along the plane formed by the edge surface of the closure and guides said surface.

**445 With counterbalance:**

This subclass is indented under subclass 404. Device provided with means acting against the force of gravity for balancing the reciprocating closure during movement or in a selected stop position.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 5+, for a counterweighted closure wherein a thermally responsive device disturbs or offsets the balance of the closure and counterweight.
- 98+, for counterbalancing interconnected closures with additional means to permit independent movement.
- 119+, for counterbalancing interconnected closures.
- 150+, for a closure with optional sliding and swinging movements with a counterbalance for both movements.
- 200, for a counterbalanced closure which has a means to move it from a vertical to a withdrawn overhead horizontal position.
- 206, for a counterbalanced closure which is mounted on a pivotal link arm to move from a vertical to a withdrawn horizontal overhead position.
- 386, for a swinging closure with biasing means.
- 414+, for a biased bearing surface which holds the closure against the force of gravity.
- 429+, for a sliding closure with a diverse or spring bearing surface which cooperates with counterbalance hardware.

SEE OR SEARCH CLASS:

- 16, Miscellaneous Hardware, subclasses 193+ for counterbalance hardware, or a counterbalance cooperating between a frame and a single sash in which there is no recitation of means for mounting the sash for movement.

**446 Connected to slide mount of removable closure:**

This subclass is indented under subclass 445. Device wherein the closure is joined to a counterbalance member which slides in a guideway in a frame, the connection between the closure and member being such that the closure may readily be disjoined from the member for removal from the frame.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 150, for a counterbalance connected to a closure mount which permits optional movements of the closure and removal.
- 454, for a detachable and displaceable slide mount which permits closure removal.

**447 Guide-concealed weight pocket:**

This subclass is indented under subclass 445. Device wherein the counterbalance includes a weight enclosed by and operable within a chamber, and wherein a closure guiding surface forms one of the walls of the chamber.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 424, for a guide concealed weight pocket having a slot opening in which a closure carried baffle plate is guided.

**448 Displaceable guide section permits access to weight pocket:**

This subclass is indented under subclass 447. Device wherein the slide or guide on a portion thereof is movably or removably mounted to reveal or permit access to an opening to said chamber.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 453+, for a guideway which is movable or removable to permit removal of the closure.

**449 With latch or lock:**

This subclass is indented under subclass 404. Device provided with securing means for retaining the closure against opening or closing movement.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 209, for a sliding closure which is moved transversely to the sliding movement of the closure to tightly engage a side stop.
- 277, for a closure having a hasp type fastener, and a starter lever acting on the hasp to effect initial opening or final closing of the closure.
- 322, for a means to secure the closure against movement, operable upon breakage of the closure supporting means.
- 503, for a closure panel modified to accommodate a lock or latch and see the search notes thereto for the loci of other locks and latches.

**450 Plural open positions:**

This subclass is indented under subclass 449. Device wherein the securing means includes a defined feature to retain the closure in selected open positions.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 316+, for a closure having a movably mounted locking strip and an operator for moving the strip.

**451 Friction holder:**

This subclass is indented under subclass 450. Device wherein the feature involves means which bears or rubs against a fixed surface with sufficient force to prevent movement of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 414+, for a biased guide or slide surface which frictionally retains the closure in various positions of adjustment.
- 421, for a reciprocating closure having a baffle plate guided in an opening provided with friction gripping means.
- 428+, for a reciprocating closure in which the closure or its mounting means is provided with a spring bearing surface which frictionally detains the closure.

**452 With means to adjust guide position:**

This subclass is indented under subclass 404. Device provided with means for varying the relative position of the guide components or the guide to the frame to compensate for variations between the closure and frame or the conform itself to the dimensions of the closure.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 316+, for a manipulatable mechanical means to move a guide or seal in or out of guiding or sealing position.
- 417+, for means to adjust or retract means biasing a guide or slide for a closure.
- 482.1, for an adjustable seal.
- 505, for an adjustable frame.

**453 Slide or guide feature for closure removal:**

This subclass is indented under subclass 404. Device wherein the mounting means includes a closure guiding structure and wherein the structure is modified to permit removal of the closure from the mounting means, e.g., portal frame.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

- 194+, for a closure having a movable or removable guide to permit one of a plurality of optional movements of a closure.
- 414+, for a biased bearing surface in which the biasing means is yieldable for closure removal.
- 428+, for a spring bearing surface which is deflected to permit closure removal.

**454 Detachable or displaceable stile or slide strip:**

This subclass is indented under subclass 453. Device wherein the closure is connected to a member which slides in a guideway in a portal frame, and wherein the connection between the closure and member is such that the closure may readily be disjoined from the member, or the member moved relative to the closure to thereby permit the closure alone or the closure and member to be removed from the frame.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 172+, for a closure having a frame guided strip, laterally retractable to permit pivoting of the closure.
- 176+, for a stile mounted closure, reciprocable with the stiles and relatively movable thereto to permit pivoting of the closure.
- 446, for a common slide mount for a counterbalance and a removal closure.
- 455 Guide mounted for repeated movement:**  
This subclass is indented under subclass 453. Device wherein the closure guiding structure includes a stationary guiding surface to confine the closure during its reciprocation, and wherein the surface is mounted for repetitive movement without disassembly to permit removal of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 194+, for a fixed guide which is movably mounted to permit a closure to have a movement in addition to reciprocation.
- 316+, for a guiding surface moved by an operator.
- 414+, for a biased guiding surface, movable against the biasing force to permit removal of the closure.
- 428+, for a spring guiding surface which is deflectable to permit removal of the closure.
- 456 Removable guide:**  
This subclass is indented under subclass 453. Device wherein the closure guiding structure includes a stationary guideway to confine the closure during its reciprocation and wherein the guideway is mounted for ready disjuncture or removal from its support to permit removal of the closure.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 194, for a fixed guide which is removable to permit a closure to have a movement in addition to reciprocation.
- 454, for a slide movable with a closure in its reciprocation and removable from
- the closure to permit removal of the closure from the frame.
- SEE OR SEARCH CLASS:
- 16, Miscellaneous Hardware, subclass 220 for a window-bead fastener, per se.
- 457 Interfitted retainers, guide, and frame:**  
This subclass is indented under subclass 456. Device comprising mating portions on or carried by the removable guideway and the frame which interjoin to retain the guideway in position.
- 458 Interengaging meeting rails:**  
This subclass is indented under subclass 404. Device including adjacent reciprocating closures each having a peripheral frame member which interfits with the other to seal the juncture therebetween.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 367, for overlapping meeting edges between bipartite center-opening closure sections.
- 485.1, for a distinct closure seal intermediate meeting rails.
- 459 Guide includes deformed or cast component:**  
This subclass is indented under subclass 404. Device wherein the mounting means includes a guide or a portion thereof formed by extruding, forging, rolling or casting metal or plastics.
- 460 HANDLE OR PROTECTOR:**  
This subclass is indented under the class definition. Device provided with means (1) to facilitate manual movement of the closure or (2) to prevent damage to the closure or an adjacent object.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:
- 364, for an impact receiver or a closure which effect a disengagement of a latch.
- SEE OR SEARCH CLASS:
- 16, Miscellaneous Hardware, subclass 402 for a kickplate or pushplate or a push and pull bar, per se, subclasses

82+ for a closure bumper or buffer and subclass 110.1 for a handle for a closure. Nominal recitation of a closure with the above hardware will be found in Class 16.

**461 Receptor for pole handle:**

This subclass is indented under subclass 460. Device provided with means on the closure adapted to be engaged by a pole or rod, whereby a push or pull on the pole imparts movement to the closure.

**SEE OR SEARCH CLASS:**

294, Handling: Hand and Hoist-Line Implements, subclasses 19.1+ for a pole-like device, per se, for manipulating an object at a distance.

**462 Edge protector:**

This subclass is indented under subclass 460. Device wherein the means to prevent damage protects an edge portion of the closure.

**463 REMOVABLE CLOSURE:**

This subclass is indented under the class definition. Device wherein the closure is mounted so as to be readily physically disassociated from its supporting portal forming structure.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

55, for a removable substitute safety guard adjustable to various size closure openings.  
57, for a removable protective grille or substitute safety guard.  
62, for an auxiliary closure which is removably mounted on a primary closure.  
380, for a movable closure mounted on a removable supporting frame.  
389, for a swinging closure which is removable in an inclined position.  
453, for a reciprocating closure in which the slide or guide permits removal of the closure, and see the search notes thereto for the loci of other removable reciprocating closures.

**SEE OR SEARCH CLASS:**

52, Static Structures (e.g., Buildings), appropriate subclasses, and especially subclass 476 for a peripheral frame with a releasable section to enable removal of a damaged panel and subclasses 764+ for a rigid frame member with a separable fastener for a panel, usually a pane.  
160, Flexible or Portable Closure, Partition, or Panel, subclasses 215+ for a removable plural strip, slat or panel type closure.  
296, Land Vehicles: Bodies and Tops, subclass 148 for removable side panels which converts a vehicle body from an open to a closed type; and subclass 218 for a vehicle having a roof and having an opening therein and closure for said opening wherein the closure may be removed from the roof.

**464 With separable closure sections:**

This subclass is indented under subclass 463. Device wherein the closure comprises a plurality of readily disassociated sections.

**SEE OR SEARCH THIS CLASS, SUBCLASS:**

198, for a closure comprising a plurality of independent sections movable from a vertical closing position to a withdrawn horizontal overhead position.  
207, for superimposed closures with independent longitudinal movement.  
366+, for removable bipartite, center opening closures.

**465 Releasable means on closure:**

This subclass is indented under subclass 463. Device wherein the means to permit removal of the closure is carried by it.

**466 Displaceable sealing or binding strip:**

This subclass is indented under subclass 463. Device wherein the means to permit removal of the closure includes a strip mounted for movement and adapted to either span the space between the closure and frame or force the closure into a holding engagement with its frame, e.g., movable jamb, brace bar.

- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
316+, for an operator for a sealing or locking strip.
- 467 THRESHOLD:**  
This subclass is indented under the class definition. Device comprising a raised device adapted to be mounted on a floor to underlie a door when it is in a closed position, commonly called a threshold.
- SEE OR SEARCH CLASS:  
296, Land Vehicles: Bodies and Tops, subclass 199 for a scuff plate for the sill of an automobile door opening.
- 468 Adjustable:**  
This subclass is indented under subclass 467. Device provided with means to alter the relative position of the threshold components or the threshold to a floor.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
505, for an adjustable frame.
- 469 With diverse seal:**  
This subclass is indented under subclass 467. Device provided with a disparate means joined to the and acting at the juncture of the threshold and the door to oppose the passage of fluid therebetween.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
304+, for a closure actuated sealing strip mounted on a sill.  
475.1, for a closure seal or striker gasket and see the search notes thereto for loci of other seals.
- 470 Closure carried:**  
This subclass is indented under subclass 469. Device in which the disparate means is mounted on the door.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
305, for a closure carried sealing strip actuated by closure movement which engages a movable strip mounted on a sill.
- 316+, for a movably mounted threshold seal carried by a closure, and having an operator to move the seal.
- 471 With drain or vent:**  
This subclass is indented under subclass 467. Device provided with means on the threshold to channel or convey moisture.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
476.1, for a closure seal with a fluid drain or a closure face mounted deflector, and see the search notes thereto for the loci of other drains and vents.
- 472 COMBINED SEAL, STOP AND STIFFENER; I.E., CLEAT:**  
This subclass is indented under the class definition. Device comprising a strip mounted on the edge of the closure and acting to (1) span the space between the closure and a portal frame for sealing the juncture between the closure and frame, (2) limit the movement of the closure, and (3) reinforce the closure panel.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
316+, for an operator for a sealing, locking or guiding strip.  
466, for a displaceable sealing or binding strip which releases a closure for removal.  
475.1, for another closure seal or striker gasket.
- 473 With additional seal:**  
This subclass is indented under subclass 472. Device comprising a sealing member of different material and in addition to and acting at the same opening, as the combined sealing, stopping and stiffening strip.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
368, for bipartite, center opening closures having a disparate seal between their overlapping meeting edges.
- 474 Eddy current or airspace trap:**  
This subclass is indented under subclass 472. Device wherein the sealing, stopping and stiffening strip is usually attached to a vehicle closure and has (1) a portion which projects

outwardly therefrom to produce a swirling of air moving relatively thereto or (2) a cavity adjacent the strip and the portal to entrap or detain moisture or dirt directed towards the portal opening, and discharge it axially of the strip, as by gravity.

#### **475.1 CLOSURE SEAL; E.G., STRIKER GASKET OR WEATHERSTRIP:**

This subclass is indented under the class definition. Device comprising means acting at the juncture of a closure and an adjacent member; e.g., portal frame or another closure, to oppose or block the passage of fluid therebetween, hereinafter termed a "seal" even though some fluid flow may occur.

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 91.1, for a weather seal between louver-type closures.
- 303+, for a seal shifted into sealing position by movement of the closure.
- 316+, for an operator which shifts a movably mounted seal into a sealing position.
- 355, for a weather seal or flap for a through wall operator.
- 383, for a seal for the hinge edge of a swinging closure.
- 414+, for a bearing surface for a reciprocating closure having a distinct biasing means.
- 428+, for a device or spring bearing surface which functions as a weatherstrip for a reciprocating closure.
- 466, for a displaceable sealing strip which permits closure removal.
- 469, for a weatherstrip combined with a threshold.
- 470, for a closure carried seal which engages a threshold.
- 472, for a combined weatherstrip, stop, and stiffener.

SEE OR SEARCH CLASS:

- 34, Drying and Gas or Vapor Contact With Solids, subclass 242 for a chamber seal for a drying oven.
- 52, Static Structures (e.g., Buildings), subclasses 140+ for a burial vault with a seal between the vault and closure; subclasses 393+ for a yieldable preformed separator between adjacent

building elements; and subclasses 716.1+ for attached type channel or trim strip or edging.

- 62, Refrigeration, subclass 275 for heating coils combined with seals for a refrigerated unit.
- 109, Safes, Bank Protection, or a Related Device, subclass 75 for bank protection closures with seals.
- 160, Flexible or Portable Closure, Partition, or Panel, subclasses 40+ for a filler for a small opening left due to improper fit of a closure of that class in an opening.
- 220, Receptacles, subclasses 200+ for a packing between a receptacle and closure.
- 277, Seal for a Joint or Juncture, for a generic sealing means or process, cross-reference art collection 921 for a closure or weather strip seal.
- 296, Land Vehicles: Bodies and Tops, subclass 93 for a seal between the windshield and body of a vehicle; subclass 146.2 for a seal involved in the mounting of a window within a door for the body of a vehicle; subclass 146.9 for a seal between a plurality of doors upon a vehicle body or between a door and the body of a vehicle; and subclass 146.16 for a seal established through a cooperative combination of a movable window and a vehicle body.
- 312, Supports: Cabinet Structure, subclass 296 for a wiper or seal for the movable component of a cabinet.
- 428, Stock Material or Miscellaneous Articles, appropriate subclasses, especially 122 and 358 for a strip of indeterminate length which may be usable or defined as a weatherstrip.

#### **476.1 With fluid drain, or closure face mounted deflector; e.g., sill seal:**

This subclass is indented under subclass 475.1. Seal provided with (1) means on the seal to direct or convey moisture, or (2) means mounted on the major face of the closure to divert moisture that is running down the closure from the seal.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

408, for a drain in the guide or sash of a sliding closure.

471, for a threshold with a drain or vent.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 97 for an externally projecting liquid deflector; subclass 209 for a drain or vent on the reveal of a portal; and subclasses 302.1+ for an interior passage to ambient.

296, Land Vehicles: Bodies and Tops, subclass 146.2 for a seal involved in the mounting of a window within a door for the body of a vehicle; subclass 146.9 for a seal between a plurality of doors upon a vehicle body or between a door and the body of a vehicle; subclass 146.16 for a seal established through a cooperative combination of a movable window and a vehicle body; and subclass 154 for a rain deflector mounted on a vehicle vent window which depends on vehicle movement for its effective functioning, or in which rain is deflected from the vehicle interior when the window is open.

**477.1 Inflatable or fluid pressure responsive:**

This subclass is indented under subclass 475.1. Seal wherein (1) the seal comprises a closed chamber having a deformable wall and is further provided with means to introduce fluid into said chamber to expand and move said wall into sealing engagement, or (2) the seal is responsive to internal or external fluid pressure to expand or contract a portion thereof.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

496.1, for seal cantilevered from an underlying base flange.

498.1, for a tubular seal.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 2.11+ for inflatable buildings.

220, Receptacles, subclass 232 for inflatable gaskets for closures of the class.

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclass 646 for a static contact seal for other than an internal combustion engine, or a pipe, conduit, or cable having a particular cross-section that is hollow, fluid-filled or has an inflatable chamber.

**478.1 Magnetic:**

This subclass is indented under subclass 475.1. Seal having a magnetic element, usually to hold it in position.

SEE OR SEARCH CLASS:

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclass 629 for a static contact seal for other than an internal combustion engine, or a pipe, conduit, or cable that uses magnetism.

**479.1 With corner or corner forming portions; i.e., corner seal:**

This subclass is indented under subclass 475.1. Seal comprising the construction of the seal adjacent the meeting point; i.e., corner, of angularly related edge surfaces of a frame or closure.

**480.1 With distinct biasing means:**

This subclass is indented under subclass 475.1. Seal provided with distinct means apart from the inherent resilience of the seal for urging it into a sealing engagement.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

414+, for a distinct biasing means for the bearing surface of a reciprocating closure.

**482.1 With feature for segmenting, replacing, adjusting or severing:**

This subclass is indented under subclass 475.1. Seal including (1) a seal which is divided into sections along its length, or (2) means to permit replacement of a section of the original seal or (3) being shiftably mounted to fit various size openings or to vary its position relative to the closure edge, or (4) means to permit a portion of the seal to be disjoined from the seal proper.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

452, for an adjustable guide.

SEE OR SEARCH CLASS:

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclass 630 for a static contact seal for other than an internal combustion engine, or a pipe, conduit, or cable having an installation, removal, assembly, disassembly, or repair feature.

**483.1 Having complementary engaging portions on closure or closure and portal frame:**

This subclass is indented under subclass 475.1. Seal comprising at least two mating parts and wherein one of the parts is respectively mounted on a closure and the other is on an adjacent member.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

304+, for interengaging seals on the closure and sill, in which movement of the closure actuates a seal.

431+, for a bearing surface of interengaging sections.

SEE OR SEARCH CLASS:

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclasses 641+ for a static contact seal for other than an internal combustion engine, or a pipe, conduit, or cable including a groove structure on the seal or part for associated mounting or retaining means.

**484.1 Plural distinct seals:**

This subclass is indented under subclass 475.1. Seal provided with at least two independent and separate seals, spaced along the juncture of the closure and an adjacent member, to provide a series of fluid opposing obstructions.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

495.1, for a single seal having two sealing portions.

**489.1 Anchored in channel or slot in closure or portal frame:**

This subclass is indented under subclass 475.1. Seal which is fastened in a groove in the closure or in an adjacent member.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

490.1, for a U-shaped channel or clamp carried by the seal for mounting the seal on the frame or closure.

493.1, for a channel-shaped seal containing a holder or molding which is secured to the closure or frame.

SEE OR SEARCH CLASS:

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclass 642 for a static contact seal for other than an internal combustion engine, or a pipe, conduit, or cable including a channel shaped groove structure on the seal or part for associated mounting or retaining means.

**490.1 U-shaped member or portion mounts seal:**

This subclass is indented under subclass 475.1. Seal which is provided with a U-shaped retaining member or portion and wherein a flange or plate, on the closure or adjacent member, is frictionally gripped by the legs of the U-shaped member or portion in a groove.

SEE OR SEARCH CLASS:

24, Buckles, Buttons, Clasps, etc., subclasses 289+ for combined fasteners, per se.

277, Seal for a Joint or Juncture, for a generic sealing means or process, subclass 642 for a static contact seal for other than an internal combustion engine, or a pipe, conduit, or cable including a channel-shaped groove structure on the seal or part for associated mounting or retaining means.

**492.1 Held by snap fastener:**

This subclass is indented under subclass 475.1. Seal that is provided with a means to hold it in position, comprising a resilient catch which is deformed or deflected when fitted into an aperture in an adjacent member or closure.

## SEE OR SEARCH CLASS:

- 24, Buckles, Buttons, Clasps, etc., subclasses 289+ for combined fasteners, per se.
- 52, Static Structures (e.g., Buildings), subclasses 716.1+ for an attached channel or trim strip.

**493.1 With holder; e.g., securing sheath:**

This subclass is indented under subclass 475.1. Seal provided with means separate and distinct from the sealing member for anchoring or retaining the seal on the closure or frame.

- (1) Note. Included in this subclass is a protective casing which receives a penetrating anchor that mounts the seal to a closure, frame, molding, trim strip, or other supporting structure but not an attaching flange integral with and extending from a sealing portion.

**495.1 Plural sealing contact points:**

This subclass is indented under subclass 475.1. Seal comprising two or more spaced apart sealing portions which contact an opposed member.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

484.1, for a plurality of separate seals.

**496.1 Spaced or superposed flange cantilevered from edge of base portion; e.g., leaf-spring type:**

This subclass is indented under subclass 475.1. Seal including a base plate (or strip) and a sealing plate (or strip) wherein the plates are joined along corresponding edges, so that a free edge of the sealing plate is adapted to sealingly engage an opposed surface.

**498.1 Tubular or tubular portion:**

This subclass is indented under subclass 475.1. Seal wherein the seal or gasket includes a portion having the form of a hollow enclosed conduit.

## SEE OR SEARCH CLASS:

- 277, Seal for a Joint or Juncture, for a generic sealing means or process, subclasses 645+ for a static contact seal for other than an internal combustion

engine, or a pipe, conduit or cable having a particular hollow or filled chamber cross-section.

**499.1 Bulged sealing surface intermediate securing ends:**

This subclass is indented under subclass 475.1. Seal including a protuberance or outwardly bent sealing surface intermediate the portions that attach to an adjacent member or to a closure.

**500.1 Windlace-type:**

This subclass is indented under subclass 475.1. Seal comprising means exposed to view which extends across the interstice between the closure and an adjacent member and includes an ornamental feature which present a pleasing appearance.

- (1) Note. This type is commonly used to seal the crevice between an automobile door and body with the ornamental portion visible from the interior of the vehicle body.

**501 PANEL WITH CLOSURE FEATURE:**

This subclass is indented under the class definition. Device comprising a closure panel, per se, combined with a feature particularly adapting the panel for use as a closure, e.g., a lock, a recess for the reception of a hinge, a counterbalance, etc.

## SEE OR SEARCH CLASS:

- 52, Static Structures (e.g., Buildings), subclasses 613+ for a composite panel having a disparate edging, and subclass 630 for a panel with integral reinforcement.

**502 With means to accommodate window accessory; e.g., automobile-type door:**

This subclass is indented under subclass 501. Device wherein the feature includes an adjunct, or supporting means therefore, for use with a window which is adapted for movement relative to the panel, e.g., a window regulator.

## SEE OR SEARCH THIS CLASS, SUBCLASS:

- 166+, for an automobile type swinging door with a sliding window mounted thereon.

374+, for a window which reciprocates in and out of an automobile door housing.

SEE OR SEARCH CLASS:

296, Land Vehicles: Bodies and Tops, subclass 146.2 for the combination of a window and door with a correlated feature or accessory of a vehicle body.

**503 Modified to accommodate lock or latch:**

This subclass is indented under subclass 501. Device wherein the feature is a construction to receive means for securing the closure against opening or closing movement.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

1+, for a thermal sensitive closure latch release.  
 11, for a float or vane controlled latch release.  
 35, for a key or check controlled closure.  
 90.1, for a position holder for interconnected louver type closure.  
 159+, for a latch for the sliding movement in a sliding and swinging closure.  
 279+, for an operator interrelated with a closure latch release.  
 316+, for a movably mounted locking strip having an operator therefor.  
 364, for a bump actuated latch release.  
 379, for a latch release, self-returning closure.  
 394+, for a latch or lock for a closure mounted for swing movement.  
 449+, for a latch or lock for a closure mounted for sliding movement.

SEE OR SEARCH CLASS:

70, Locks, subclasses 77+ for a closure lock, per se, or in which only the details of closure necessary to mount the lock are recited.  
 292, Closure Fasteners, appropriate subclasses, for a closure fastener, per se, or in which only the details of the closure necessary to mount the fastener are recited.

**504 FRAME WITH CLOSURE FEATURE:**

This subclass is indented under the class definition. Device comprising a member insertable in or defining an opening forming a passage-

way, combined with means particularly adapted for cooperation with opening or closing movement of a closure, e.g., a stop.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

381+, for a frame combined with means for mounting a closure for swinging movement.  
 404+, for a frame combined with means mounting a closure for reciprocating movement.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclasses 204.1+ for a building structure with a feature for a portal, and subclasses 656.2+ for a cornered or peripheral border in an openwork structure.

**505 Adjustable frame:**

This subclass is indented under subclass 504. Device wherein the member cooperates to alter the relative position of the frame member components or the frame member to a wall.

SEE OR SEARCH THIS CLASS, SUB-CLASS:

452, for a means to adjust the position of a guide member.  
 468, for an adjustable threshold.

SEE OR SEARCH CLASS:

52, Static Structures (e.g., Buildings), subclass 217 for a retaining feature which permits a size adjustment between a frame and a reveal.

**506 PROCESSES:**

This subclass is indented under the class definition. Processes of using, making or assembling a device.

SEE OR SEARCH CLASS:

29, Metal Working, appropriate subclass, for a process not specialized to the assembly of a closure on a portal frame.  
 52, Static Structures (e.g., Buildings), subclasses 741.1+ for a process specialized to the manufacture, erection or assembly of a building structure at the job site.

- 144,     Woodworking, subclasses 329+ for a process of assembly or manufacture of an article having at least one wood component, not peculiar to the assembly of a closure on a portal frame.

**507     MISCELLANEOUS:**

This subclass is indented under the class definition. Device not classifiable in any prior subclass.

END